

# CENSUS 2000 OPERATIONAL PLAN

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***The Census 2000 Operational Plan is subject to change based upon Congressional funding and questionnaire content changes, the results of our testing and research, the advice generated from our ongoing consultation process with stakeholders, and on what occurs as we begin operationalizing and implementing the plan's specific elements.***

## CENSUS 2000 OPERATIONAL PLAN

### I. OBJECTIVES AND STRATEGIES

The next census of the United States' population and housing will be conducted as of April 1, 2000. Reflecting a long tradition, Census 2000 will be the 22nd decennial enumeration in an unbroken chain that our Nation has undertaken. In many significant respects, however, Census 2000 will deviate sharply from tradition. As this Nation moves forward into a new century, the decennial census also must move forward. The Census Bureau has developed a plan for conducting Census 2000, incorporating many new features that address the two concerns that many people had about the 1990 census: that it cost too much and that it did not include everyone. The Census 2000 operational plan redesigns the census process in bold and fundamental ways.

From apportioning the U.S. House of Representatives to providing the data used by communities, businesses, and Americans everywhere, the decennial census is the cornerstone of our knowledge about our Nation. The census is the only data gathering operation in the United States that is mandated by the Constitution and the only one that produces a broad array of information on the American people and their housing at the smallest geographic levels.

#### **Objectives of Census 2000**

***The goal of every census is to be the best census ever. So it is with Census 2000. The Census 2000 operational plan contains strategies to improve the completeness and reduce the cost of the census. The following objectives are fundamental to our efforts:***

- Make unprecedented efforts to count every household and person—from simpler, user-friendly forms to the better design of census operations
- Maintain an open process that diverse groups and interests can understand and support
- Eliminate the differential undercount of racial and ethnic groups
- Produce a "one-number" census that is right the first time

## **Four Strategies for Fundamental Change**

***The Census Bureau's operational plans for Census 2000 are built around four fundamental strategies for change:***

### **! Strategy One: *Build Partnerships at Every Stage of the Process***

The Census Bureau cannot accomplish its goals alone. So for Census 2000, we are reaching out and forming partnerships to help us accomplish our objectives. We need to think in terms of every activity being done by a "best in class" provider. This means the Census Bureau must build:

- **Partnerships with state, local, and tribal governments.** These governments know their local conditions and circumstances better than the Census Bureau. They can help us correct our maps and address lists, and tell us where to put unaddressed questionnaires, called "Be Counted" forms, in locations where people will find them. They also can alert us to problems and advise us of opportunities to publicize Census 2000. The law now allows us to let these governments review our address lists—while maintaining their confidentiality—and get their input.
- **Partnerships with community groups.** These groups know their constituents better than either the Census Bureau or any other governmental office. The groups can alert us to the best ways to communicate with their constituents to ensure they are included.
- **Partnership with the U.S. Postal Service (USPS).** For Census 2000, the Census Bureau will use address information provided by the USPS to enhance our comprehensive address file. The USPS also will deliver census questionnaires to over 80 percent of the addresses nationwide.
- **Partnership through privatization.** To be "world class" in every stage of the census, we will award contracts to private sector partners, including:
  - **Advertising and promotion.** We will use private companies to manage our efforts to promote the census more visibly and effectively.
  - **Facilities management.** We will contract with data processing companies to manage the facilities where completed census forms are translated into computer files.

## ! *Strategy Two: **Keep It Simple***

The simpler and easier Census 2000 is, the greater the response, and the more accurate and less expensive it will be. Simplicity is the goal for every part of the process. For example:

- **User-friendly forms.** Our modern, powerful computer systems will allow us to use forms that are easier to read and complete. Moreover, because everyone is deluged with junk mail, Census 2000 questionnaires must be attractive, motivating (by explaining the benefits and mandatory nature of the census), easy to understand, and simple to fill out. The Census 2000 forms will stand out because they will carry a well-publicized “census” identity. Private designers are working with us to simplify the forms and implement the user-friendly features demonstrated in our testing and research to increase response.
- **Multiple contacts.** We also have learned from our testing and research that repeated contacts and reminders pay big dividends in response rates. So for Census 2000, we will implement a multiple mail contact strategy. The first contact with each address will be a letter that alerts the recipient to the census and its benefits. A few days later, a census questionnaire will arrive, noting that “your response is required by law.” Shortly thereafter, a postcard will arrive thanking those who have participated and reminding others to do so.
- **More ways to respond.** Our first priority is to deliver a census questionnaire at each address. For the first time, however, we also will place unaddressed Be Counted questionnaires in locations such as community centers, Walk-in Questionnaire Assistance Centers, tribal offices, etc., for pick up and completion by people who believe that they have not been counted in the census. There will be a well-publicized toll-free telephone number for respondents to respond on the telephone. We also plan to mail census forms in another language to households in areas where a significant number of people speak the other language, along with an English-language questionnaire.
- **Other simplified procedures**
  - A new method will ensure that Census 2000 finds people--such as those with no usual residence--at shelters, soup kitchens, and other places where they obtain services.

- Special targeted methods will improve the count for population groups and in areas that historically have had large undercounts. One example is enlisting community leaders to designate neighborhoods where English is not the primary language for the Census Bureau to include as part of the targeted initial mailing of non-English questionnaires.

### ! Strategy Three: **Use Technology Intelligently**

Dramatic advances in computing will allow Census 2000 to be simpler, less costly, and more accurate. For example:

- **Digital "capture" of forms.** In Census 2000, for the first time, we will scan most of the completed questionnaires directly into computers that read handwriting. The completed forms will be read directly into computer files that will be used later for tabulation.
- **"Matching" software.** Sophisticated computer software will allow us to spot multiple responses from the same household. For example, if one spouse returns a regular questionnaire by mail while the other fills out a Be Counted questionnaire, we will be able to determine that both records come from the same household.
- **"Point and click" data tabulation.** Data seekers will be able to find the information they want from Census 2000. "Point and click" computing from our new DADS system will allow them to select the specific information they want, instead of thumbing through census reports that may or may not have the answer they are looking for.

### ! Strategy Four: **Use Statistical Methods**

Sampling and statistical estimation have been an integral part of the census process since 1940. At one time, the census asked every household for all the census information; now, most census questions are asked of a sample of households.

In 1990, respondents who did not return their census forms by mail cost the Census Bureau more than those who did, since temporary census workers were needed to conduct personal visits with nonresponding households. Statisticians agree that incorporating widely accepted statistical methods into Census 2000 will produce better results at less cost. So for Census 2000, we will make every attempt to find everyone. Some households, however, will neither mail in nor phone in their response. So we will use personal visits to obtain responses from the remaining addresses, to ensure that we directly contact at least 90 percent of the households in each census tract.

Using sampling to gather information on nonrespondents will ensure that Census 2000 is built on a solid core of responses. It will ensure that we can complete our personal visits with no loss of accuracy but with substantial savings of time and money. Sampling will allow us to make scientific estimates of the population for the final 10 percent of the housing units.

Our experience in the last six decennial censuses has demonstrated that having responses from 100 percent of the housing units does *not* ensure inclusion of 100 percent of the population. People are left out for many reasons, and our objective is to account for everyone.

To check the quality of our work and to reach our goal of accounting for 100 percent of the population, we will take an independent sample—of about 750,000 housing units—of the total population and conduct a second interview. We will use the information from the second interview as the basis for quality checking all our results: the results from the mail returns, the Be Counted program, telephone interviews, and personal followup visits. This quality check survey, also known as the Integrated Coverage Measurement Survey (ICM), will lead to a "one-number" census and will eliminate the need for subsequent adjustment of the decennial count. We will use demographic analysis to validate the results.

By using both kinds of sampling--that is, sampling for nonresponse and for the ICM survey--the accuracy of Census 2000 will be very high for all states, congressional districts, and other populous areas.

There always will be some uncertainty surrounding population totals for some smaller areas, such as census blocks, census tracts, or small communities. Unlike previous censuses, for Census 2000, we will have estimates of the uncertainty resulting from sampling for all areas. The totals for historically undercounted areas will be much better than those obtained from using traditional methods.

## **Effective Management Tools**

The Census Bureau has instituted several management initiatives--such as the following--to facilitate a more effective and efficient planning process for Census 2000 as well as its actual implementation:

- A sophisticated electronic Management Information System, with a Master Activity Schedule component and a Cost and Progress component, will provide information on scheduled dates, responsible organization, budget, cost to date, and current progress for Census 2000 operations. This system provides decision support functions, such as critical path analysis and what-if analysis.

- The Commerce Administrative Management System is a modern electronic financial management system which, among other features, provides up-to-date financial data available for on-line query as well as paperless processing for purchase orders and payments.
- The Census 2000 Cost Model provides an automated means to estimate staffing and budget requirements for Census 2000 based on a well-defined set of activities specific to the major components of census operations. The Cost Model tool used to prepare the cost estimates for the budget process. It also is used to answer inquiries from Congress, the Department of Commerce, the Office of Management and Budget, senior managers at the Census Bureau, and our stakeholders.

Using the various innovative and cost-saving methods that center around the four strategies for conducting Census 2000, as well as the improved management of census operations, cost modeling techniques have estimated the cost of Census 2000 to be less than if the 1990 census design were repeated in 2000.

## **II. CONTENT OF THE REPORT AND OVERVIEW OF CENSUS 2000 OPERATIONS**

### **CONTENT OF THIS REPORT**

This report presents the objective, major features, and milestone dates for each major element of the operational plan for Census 2000. The milestone dates shown in each section are presented in terms of months of the calendar year and, sometimes, in terms of exact days. Questions or comments relating to specific aspects of the operational plan may be directed to the appropriate person listed in Appendix B, "Key Census Bureau Telephone Contacts."

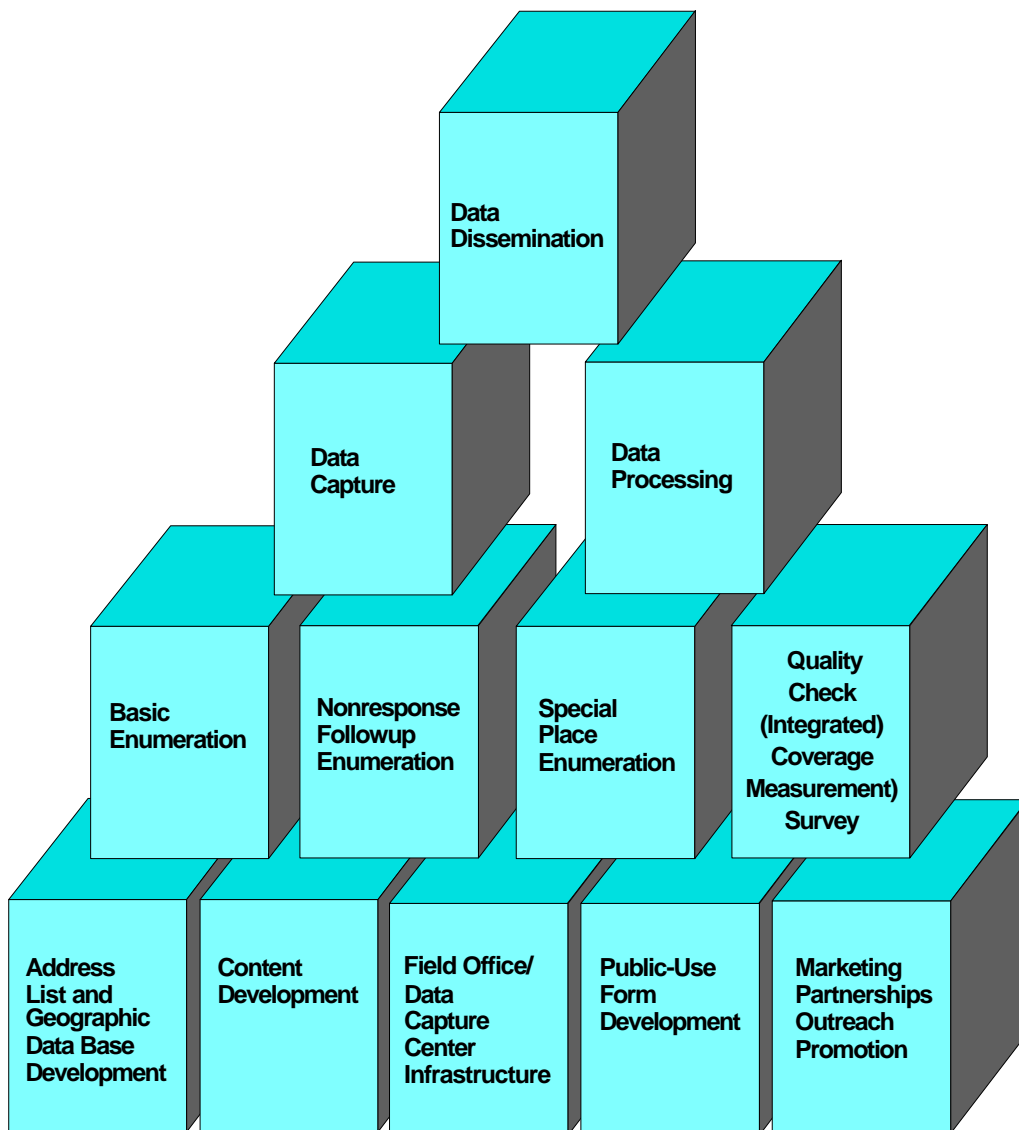
The census design upon which this plan is based employs statistical sampling to supplement traditional enumeration methods while improving quality and containing census costs. In addition to continued planning and preparation for the current census design, the Bureau of the Census is designing a Census 2000 process that does not employ the expanded statistical methods. The detailed plans for this "non-sampling" census will be documented as they become available.

### **OVERVIEW OF CENSUS 2000 OPERATIONS**

#### ***CURRENT STATUS***

Census 2000 will enumerate the residents of the United States as of April 1, 2000. Since the first census in 1790, the major phases of the census--planning and preparation, data collection and processing, and dissemination of results--have remained the same. Over time, however, the operational components of these phases have changed greatly. Changes have reflected the characteristics of our society, advances in technology and methodology, and experience gained in previous censuses. This overview describes major elements of the preparatory, data collection, data processing, and dissemination phases of the *current design* of Census 2000. Figure II-1 depicts the key operations in each of these phases. The bottom layer of blocks shows activities comprising the preparatory phase, which provide a broad and firm foundation for effectively supporting successive steps in the census process. The next set of blocks shows major data collection activities, and the third layer represents data processing steps, including the capture of information provided by the public. The top block shows the data dissemination phase, representing the goal of producing statistics that will serve our Nation well.

**Figure II-1. Census 2000 Process**



The design of Census 2000 reflects a balance between two different approaches to assuring a complete enumeration of the population:

- One is the “traditional” approach used in all previous censuses. The traditional approach is to count each person, household, and housing unit by direct contact to the greatest extent possible. For Census 2000, we have intensified our efforts to encourage participation by expanding and improving ways for everyone to become aware of the census and provide information about themselves and their households.
- The second approach is to use statistical methods, especially sampling, to a greater degree than in past censuses. These statistical methods will address problems with the timing and accuracy of past censuses that will not be solved even with expanded efforts using traditional methods.

The current census design uses the traditional approach for the first several weeks of the enumeration process, and then turns to the second approach to compensate for deficiencies in the first. The operations described in this document have been defined, planned, funded and scheduled to integrate these two approaches and result in the single set of results that characterize the “one-number” census.

The remainder of this section provides an overview of the preparatory, data collection, data processing, and dissemination phases of the current design of the Census 2000. It provides a context for the remainder of the document by showing how each major element of the census relates to others. As each individual element is described, we provide a reference to the subsequent section in this plan which provides more detail about it.

This overview first summarizes operations conducted during the data collection, data processing, and tabulation phases of the census. Having provided the context of those activities, it then describes the preparatory phase of the census, where the foundation of the other phases is laid.

### ***DATA COLLECTION, DATA PROCESSING, AND DISSEMINATION***

The major enumeration activities for the Census 2000 occur between April and September. Throughout the period of data collection, there is a parallel period of data processing where the information is entered into the computer and checked. These data processing activities support enumeration by identifying areas where information is missing or incomplete. Once data collection is complete, data processing continues to assure the accuracy of the census results. The final product from data processing is complete files of characteristics for each person in the nation and for enumerated housing units. Tabulations from these files are used to produce census results that will be used for many purposes.

*BASIC DATA COLLECTION*

Just before April 1, 2000, most of the households in the United States will receive a questionnaire on which their residents will be enumerated in the census.

- For just over 80 percent of all households, the United States Postal Service (USPS) will deliver census questionnaires. Household residents will be asked to fill out their questionnaire and mail it back to the Census Bureau. This procedure, known as **mailout/mailback** (See section IX.A), covers most areas that have city style addresses (a house number and street name).
- For the vast majority of the remaining households, a census worker will leave the questionnaires, while updating the list of addresses for the area. This procedure is known as **update/leave**. (See section IX.A) Again, household residents will be asked to fill out the questionnaire and mail it back to the Census Bureau.
- In the remaining areas, which are sparsely settled or remote, census workers collect information directly. These **list/enumerate** procedures are described further in section IX.A.
- Additional or modified procedures are used to ensure the complete enumeration of particular persons and areas:
  - Modified procedures are used to enumerate persons in special living situations. These procedures are described in sections IX.D and IX.E.
  - Various special procedures will also be used in areas where extra effort to complete the enumeration is needed. These procedures are described in section IX.F.
  - Basic census procedures will be tailored to conduct the best possible enumeration of American Indian and Alaska Native Areas and in Hawaiian Homelands. Planning for all aspects of the census in these areas is described in section X.
  - Slightly different procedures are used in Puerto Rico and the Island Areas. These procedures are referenced in sections XIV. and XV, respectively.

As questionnaires are returned by mail or by census workers, they will be checked-in against the list of those sent out. The handwritten information on the forms will be converted to computer-readable form, and the data will be checked by computer to determine whether we received information for all persons in the household. We

will attempt to contact households where one or more persons, or their data, may be missing. These contacts, by mail or telephone, are described in Sections IX.H and IX.J, respectively.

During the period of time when questionnaires are being returned, we will provide opportunities for people to be counted if they feel they did not receive a questionnaire, or that they were not included on their household's questionnaire, or that they would not otherwise be counted for any reason. These opportunities are greatly expanded and intensified compared to previous censuses, where we assumed that everyone would receive a census questionnaire in the mail and be enumerated with an appropriate household. For Census 2000, people will be able to pick up a "Be Counted" census form (See section X.C) in a convenient location and mail it back to us. In addition, they will be able to use our Telephone Questionnaire Assistance service to answer questions about filling out the form, or to provide their information over the phone. (See section IX.B) We will inform the public about these opportunities through a strong marketing campaign and a network of partnerships established with community organizations; state, local, and tribal governments; and others that can help encourage their constituencies to participate in the census.

#### *SAMPLING FOR NONRESPONSE AND THE VACANT HOUSING UNIT CHECK*

Even with our unprecedented efforts to encourage everyone to provide information by mail or telephone, some persons and households will not do so. About 2 weeks after Census Day, we will determine the percentage of returned questionnaires (the mail response rate) for each census tract. We will then select a sample of addresses without returned questionnaires and send census workers out to visit and enumerate at those addresses. This operation is called Nonresponse Followup. (See section IX.K) The rate at which the sample is selected will ensure that at least 90 percent of the housing units in the tract have completed census forms.

During the time period between Census Day and visits to the sample of nonresponding addresses, census workers visit a sample of those housing units identified by the Postal Service as likely to be vacant. This operation is called the Vacant Housing Unit Followup. (See section IX.G) Past experience shows that a small but significant portion of these units are, in fact, occupied, so this visit accounts for people who may be living there and who did not get a census questionnaire.

#### *INTEGRATED COVERAGE MEASUREMENT*

Up to this point, we will have used all available methods to encourage people to participate in the census. Subsequently, we will have visited a sample of

nonresponding households to collect information that can be used to estimate the number and characteristics of persons of all persons who would have been followed up under previous census procedures. However, as in past censuses, there will still be significant numbers of persons who are not represented in the census enumeration. These are people with unusual living situations, transient status, or other characteristics for whom even expanded enumeration opportunities fail to work. Because we know that people will still be missing, we will conduct an additional major check for quality called the Integrated Coverage Measurement (ICM) Operation. (See section IX.L) The ICM is a large-scale sample survey conducted independently of earlier census operations. By matching the results of the ICM to the results of those earlier operations, we will provide an estimate of the total population of the nation that is more complete than either. The ratio of the estimate of the complete population to the results of the earlier operations will be calculated for various population groups to produce a sound statistical estimate of the population for the Nation, States, and for small areas.

Because the final “one number” census results are statistical estimates, they may differ from what they would have been if we had been able to enumerate each person directly. We will provide estimates of their coefficient of variation (CV), a measure which indicates the amount of difference that has occurred. The effects of combining the responses to the census, the data from the nonresponse followup, and data from the ICM are described in section IX-M. Independent estimates that can be used to validate the “one number” census results will be provided from an approach called Demographic Analysis. (See section IX.N)

### *DATA PROCESSING*

As described above, the information supplied by respondents will be entered into computers concurrent with field operations. The data are then processed to assure their accuracy and completeness. For example:

- The computer will check each questionnaire to determine if there is any indication that one or more persons may be missing. Whenever there is such an indication, we will follow up by mail or telephone to add people as appropriate.
- When we receive Be Counted forms in the mail or census information over the phone, we will compare (match) that information to the information on mail returned questionnaires to make sure that people are not counted more than once. (See section IX.I)
- Computer checks are also done to determine how complete the data for each person are. These edits locate questionnaire items with missing data and use statistical techniques to “impute” values based on characteristics of similar households.

All of these operations help ensure that there is one record for each person in the census, and that their data records are complete.

Another set of processing operations ensures the integrity of the list of addresses and the housing units associated with them. There are several census operations that identify needed changes to our list of addresses. Whenever we identify new housing units or those that no longer exist, we must update our files. Processing these changes is a continuing operation involving data capture of changed addresses and locations and, if needed, changes to our geographic database.

### *DISSEMINATION*

Once the final population counts have been processed, we are ready to provide the data. The first set of data produced from the census are the state totals to be provided to the President by December 31, 2000. These counts are used to reapportion the seats in the U.S. House of Representatives. Between that date and April 1, 2001, we will provide tabulations to each state so that they can redraw Congressional, state, and local legislative districts. The boundaries of areas for which redistricting data are provided are identified through partnerships with state officials, an effort that begins several years before Census Day. (See section XII.B)

Most of the data from the census will be tabulated and disseminated electronically using the newly-developed Data Access and Dissemination System (DADS). (See section XII.A) This system will use new technology to provide fast and flexible access to census data for a wide array of data users. In addition to tabulations, we will provide a full range of maps and other geographic products in hardcopy and digital form. (See section XII.C)

### **PLANNING AND PREPARATION**

The previous section summarized the activities that take place to enumerate the population and produce census data. To ensure their accomplishment, there is a lengthy and complex period of preparing for all of the people, systems, and materials needed to make the census successful. Long before Census Day, we need to:

- Promote awareness of the census and its importance because the success of the census depends greatly on the cooperation of the American public. Our unprecedented efforts to promote and publicize the census include working with the media, state and local governments, and organizations who can encourage their constituents to participate. A paid advertising campaign will be coupled with a variety of special targeted activities to make as many people as possible aware

of the importance of the census and the many ways of providing their information. Our partnerships with governments and organizations recognize their expertise about the best ways to involve the people they serve. (See section IV)

- Determine the questions that will be asked of each person for themselves, other household members, and their living quarters (See section V.A) and design the questionnaires so that they will provide accurate and complete information. We need to arrange for the questionnaire packages, including envelopes, to be printed, assembled, and delivered by the United States Postal Service or census workers on a precise schedule. To encourage as many households as possible to return their questionnaires, we will also send an advance notice of the census before the questionnaires are mailed, and a thank you/reminder postcard shortly after the questionnaires are mailed. (See section V.B)

In 2000, as in every census since 1940, a sample of households will be asked to respond to more questions than other households. Most households will receive a “short form,” but this sample will receive the “long form.” The sampling rate will vary across different geographic levels, with about one out of every six households receiving the long form overall. (See section V.D)

In addition to the census questionnaires and mailing packages, a number of other data collection forms must be designed, produced, and provided to support special data collection efforts. (See section V.C)

- Compile lists of addresses and other identifying information about housing units and other places where people live or could live. Different procedures to compile address lists are used in areas where the United States Postal Service delivers the questionnaires and areas where census workers deliver them. (See sections VI.A and VI.B, respectively). Once compiled, all of these addresses form the Master Address File (MAF), which must be complete and accurate to help assure that the census results are complete and accurate. For both types of areas, the process of compiling the lists of addresses begins long before Census Day, and several phases of updating take place using information from the United States Postal Service, local and tribal governments, and census workers. (See sections VI.C., VI.D, and VI.E, respectively) Each of these sources provides unique and important contributions to the accuracy of the information on the address lists. Equally important, a unique location description must be associated with each address. These locations are important so that census workers can find addresses during field visits, and so that data provided by respondents in multiple ways, as well as the results of the Integrated Coverage Measurement Survey, can be matched efficiently. In areas with city style addresses, the address itself provides a unique location description, but in other areas, a person must visit the living quarters and describe it in words and by “spotting” it on a map.

Our tool for identifying the spatial location of living quarters and the other geographic information necessary for producing maps and census tabulations is a data base called TIGER®\*. (See section VII) The TIGER data base, which accounts for the entire area of the country, initially was developed during the 1980's and is updated continually. It contains information on physical features including their names and attributes (for example, the address range associated with a street segment), the boundaries of legal, administrative, and statistical geographic entities, and other relevant data. Using the TIGER data base, we can associate each address in the Master Address File with its corresponding record in TIGER to produce address files or listings and accompanying maps for use in census operations and to tabulate the census results. Throughout the decade and especially during the census, the address list and the TIGER data base are linked and updated to ensure that both are kept current and consistent.

- Establish an extensive set of temporary offices to support the conduct of data collection, data capture, and data processing operations. Data collection offices and Data Capture Centers will manage the massive recruiting efforts needed to conduct census operation, report progress, and transmit completed work. Establishing the infrastructure for these offices requires long lead times in order to find and configure space; purchase equipment, furniture, and supplies; and recruit and train census workers for temporary positions. (See section VIII.A)

Precensus address listing operations will be managed by a network of Census Field Offices (CFO's), and data collection operations will be managed by a network of Local Census Offices (LCO's). All of these offices will report to Regional Census Centers in the same cities where the Census Bureau's permanent Regional Offices are located. The decentralized networks of offices will be responsible for recruiting and managing staff for all field operations. Their establishment and management will be performed by Census Bureau staff.

Data Capture Centers will be located in four areas of the country, one of which is the Census Bureau's permanent data processing facility in Jeffersonville, Indiana. Permanent Census Bureau staff will establish and manage activities in Jeffersonville, which will perform both the same data capture functions as the other Centers and several post-census processing operations after the other Centers close. Responsibility for establishing and managing the other three Data Capture Centers, and for their equipment, software, and technical maintenance of equipment, will be contracted out. Contractors will be responsible for: (1) checking in census questionnaires by comparing identifying

\*TIGER® is a registered trademark of the U.S. Bureau of the Census. For ease of presentation, the trademark symbols for TIGER and TIGER-related products are omitted from the text.

information on them to the Master Address File; (2) preparing the questionnaires for data capture; (3) capturing the data by scanning the questionnaires using electronic imaging; (4) keying of data as necessary; and (5) ensuring the consistency of data files with the actual respondent-supplied information. The completed capture files will be transmitted to headquarters for the operations needed to provide a final file of detailed census data. (See section XI.B)

Computer specialists at Headquarters, who work closely with statisticians and subject matter experts, will have designed an automated data processing system that supports preparatory activities, operates concurrently with capture operations during data collection, and processes the captured data. During the preparatory phases of the census, this system will support all activities related to building the address list and using the list for mailing questionnaires, selecting the sample of long form questionnaires, and providing control files for field data collection and data capture. During census data collection and capture operations, these headquarters processing systems will match and unduplicate responses for people who may otherwise be counted more than one time, and select the samples for nonresponse followup, the vacancy check, and the Integrated Coverage Measurement Survey. After data collection and capture, these systems will perform final edits to ensure complete information for and about each person, conduct statistical estimation and variance procedures, and format complete data files to be used to produce census results in a variety of media. (See section XI.C)

Recruiting temporary staff for census operations, in particular data collection, will require hiring almost a half million people for census jobs. Before hiring people, the Census Bureau will test them, make sure they meet other requirements, and screen them for criminal histories. (See section VIII.B)

Telephone Questionnaire Assistance will be performed under contract. The contractor will conduct operations to answer questions about the census questionnaire and take information from respondents over the telephone, under the direction of Census Bureau staff.

A sophisticated and extensive telecommunication network will support all communication among the public, our decentralized offices, and Headquarters. (See section XI.A)

Because the census must provide high quality information, it is critical that each operation that contributes to the accuracy of that information be performed well. Detecting and correcting errors that might otherwise be introduced is accomplished using Quality Assurance (QA) procedures. The operations for which QA procedures will be implemented are described in Section XIII.C.

- Design a system to produce tabulations and other data products from the census. Our first products will be the state counts for the President, and block level data for the states. We will work with data users to define other basic products, and are developing DADS for online timely access to all census data.

### ***TESTING, DRESS REHEARSAL, EVALUATION AND RESEARCH***

As mentioned earlier, we are conducting a Dress Rehearsal of Census 2000 methods and procedures during 1998. The design of the Dress Rehearsal was based on testing and research conducted earlier this decade to address problems identified in the 1990 Census. (See sections XIII.A and XIII.B) Continual improvement in the census process will again rely on Census 2000, which will include several studies to evaluate census quality and provide information for future census planning. (See section XIII.D.) In fact, planning for the 2010 Census has already begun, as described in Section XIII.G. Research and development efforts for 2010 will take advantage of the Dress Rehearsal and Census 2000 to provide a useful context for testing. For example, data from the Dress Rehearsal and Census 2000 (as well as other sources) will be used to explore the feasibility of using administrative records for a decennial census. (See section XIII.F) And, ideas for research studies and experiments to develop future census methods will be considered in planning the 2000 Census. In this way, the Census Bureau will continue its tradition of adapting census procedures to reflect our changing population, times, and technology.

### III. LEGAL REQUIREMENTS

The decennial census is mandated by the U.S. Constitution (Article I, Section 2) to provide the population counts needed to apportion the seats in the U.S. House of Representatives among the states. However, the Constitution does not prescribe how the decennial census should be conducted. In Title 13, U.S. Code, the Congress gave the Secretary of Commerce (and by delegation, the Director of the Census Bureau) discretion to enact decennial census plans, subject to executive and congressional review.

The planning and conduct of Census 2000 must comply with a number of legal requirements, some of which specify deadlines, as described in the following:

- The geographic scope of whom we enumerate in a decennial census is specified in Title 13 as covering the 50 states, the District of Columbia, the Commonwealth of Puerto Rico, the Virgin Islands of the United States, the Commonwealth of the Northern Mariana Islands, and Guam, and any other areas as may be determined by the Secretary of Commerce. In Census 2000, we also will enumerate the Pacific Island Area of American Samoa.
- The Secretary of Commerce, acting under the authority of Title 13, is required to report to the Congress twice regarding the content of the census questionnaires: first at least 3 years before Census Day (by April 1, 1997) on the subjects proposed for inclusion, and again at least 2 years before the census (by April 1, 1998) on the proposed specific question wording. Accordingly, on March 31, 1997, the Census Bureau submitted to the Secretary of Commerce for transmission to the Congress the list of subjects proposed for inclusion in Census 2000. (See page V-4.)
- All subjects submitted to Congress had a strong legislative justification for being included. They were either specifically mandated or strongly implied by Federal law. Congress has enacted laws requiring the use of census data to determine how much Federal funding to allocate to states, cities, school districts, and other governmental units to administer a wide variety of important programs.
- On October 30, 1997, the Office of Management and Budget issued revisions to the standards for the classification of Federal data on race and ethnicity. This standard provides guidelines on how all Federal agencies are to collect, tabulate, and publish data on race and ethnicity. According to the standard, there are five categories for data on race: American Indian or Alaska Native, Asian, Black or African American, Native Hawaiian or other Pacific Islander, and White. There are two categories for data on ethnicity: Hispanic or Latino and not

Hispanic or Latino. Respondents can select one or more racial designations, and all Federal agencies are encouraged to report at a minimum a count of the number of respondents reporting "more than one race."

- Public Law (P.L.) 94-311 requires the use of Spanish-language forms and Spanish-speaking interviewers in areas having significant concentrations of Hispanic populations. In Census 2000, for the first time, we will include a Spanish-language census questionnaire along with an English-language form in the mailout package for these areas.
- Before the census forms go to print, the OMB is required by law to review the questions to ensure they meet the data needs of the Executive Branch departments and agencies responsible for implementing programs mandated and authorized by the Congress. In addition, under the Paperwork Reduction Act (Title 44), the OMB must see that the time burden for a household to respond to the questionnaire is held to a minimum.
- P.L. 103-430 requires that the United States Postal Service provide its address information to the Census Bureau to improve the Master Address File (MAF).
- Established in response to the requirements of P.L. 103-430, the LUCA program (Local Update of Census Addresses) provides an opportunity for local and tribal officials to designate a liaison to review the address information in the MAF for their jurisdiction and the geographic information in the Census Bureau's geographic database (TIGER) to improve their completeness and accuracy.
- As specified in Title 13, Census Day for Census 2000 is April 1, as it has been for each decennial enumeration since 1930. All census questions generally are to be answered with reference to April 1, regardless of when the questionnaire is filled out.
- Title 13 guarantees the confidentiality of respondents' answers to the census forms. In fact, the Census Bureau takes extraordinary steps throughout the entire census process to assure the confidentiality of census information. All Census Bureau employees must take an oath of confidentiality. As required by Title 13, the Census Bureau maintains tight security over completed questionnaires. Furthermore, disclosure-avoidance programs during the data tabulation phase make certain that individual persons or housing units cannot be identified, either from paper or electronic tabulations.
- Title 44 specifies that individual census information from the decennial census cannot be made public for 72 years.

- Under the terms of Title 13, the Secretary of Commerce must deliver state population counts to the President within 9 months of Census Day (by December 31, 2000). These counts are used to reapportion the seats in the U.S. House of Representatives.
- P.L. 94-171 requires that the Census Bureau provide selected census tabulations to the states by April 1 of the year following the census year. The states use these tabulations to redraw the boundaries of Congressional districts as well as other areas used for state and local elections.
- Under the Voting Rights Act, the Census Bureau is required to provide to the states race and ethnic data for small geographic areas to be used for the redistricting process specified in P.L. 94-171. The race and ethnic categories required are those mandated by the standards for the classification of federal data on race and ethnicity. (see page III-1).
- P.L. 105-119 (also known as the "Department of Commerce and Related Agencies Appropriations Act, 1998"), Section 210, establishes a board known as the Census Monitoring Board. The function of the board, as stated in the legislation, is "to observe and monitor all aspects of the preparation and implementation of the 2000 decennial census (including all dress rehearsals and other simulations of a census in preparation therefor)." The Board shall cease to exist on September 30, 2001. Section 209(j) of this same law also states that there should be sufficient funds "to plan, test, and become prepared to implement a 2000 decennial census, without using statistical methods, which shall result in the percentage of the total population actually enumerated being as close to 100 percent as possible."

## **IV. MARKETING AND PARTNERSHIP PROGRAM**

### **OBJECTIVE**

The Census 2000 Marketing and Partnership Program will be, for the first time, an integrated communications effort. The objectives of the campaign are to increase awareness of Census 2000 and boost response rates.

### **MAJOR FEATURES**

Prior to Census Day, the Marketing and Partnership Program will be geared toward building awareness that the census is approaching and how it will benefit the community. During the mailout/mailback period, the campaign focus will shift to motivating people to return their questionnaires promptly to increase the initial mail response rate. The marketing program also will encourage cooperation with census enumerators during the followup operation with nonresponding households and will let people know the census is “not over” during the quality check survey.

The comprehensive marketing and partnership strategy includes:

- Partnerships and community outreach
- Paid advertising
- Special methods to encourage response
- Traditional public relations
- Special events

### **Partnerships and Community Outreach**

The Census Bureau has begun forming partnerships with other Federal agencies, state, local and tribal governments, as well as with community-based organizations and businesses. The Bureau recognizes the unique local knowledge, experience, and expertise these partners can bring to planning and taking an accurate census. Partnerships have each member performing those activities for which it is best qualified, assuring the most effective expenditure of staff and financial resources.

To establish and maintain continuing liaison and partnership with government and non-government entities, we will hire three types of Census Bureau partnership specialists throughout the country: government, media, and community specialists. The first wave of 12 government partnership specialists have been on board since 1996.

The Census 2000 Publicity Office will coordinate the full range of Census 2000 programs with governmental and nongovernmental partners to ensure that we do not make unnecessary or overlapping requests of those willing to work in partnership.

Census 2000 will provide numerous opportunities for government and nongovernment entities to participate in partnership activities. Examples of these activities include:

- The Census Bureau has formed a partnership with the U.S. Postal Service (USPS) to use its address information to enhance the Census 2000 Master Address File. Working with the USPS provides the best nationwide source of address updates, which will help reduce the number of households missed in Census 2000.
- Under the LUCA program (see page VI-5), partnerships with local and tribal governments are being formed to provide valuable assistance in reviewing and updating the Master Address File.
- Partnerships with governments and organizations will support Census 2000 promotional activities by issuing public statements of endorsement, holding press conferences, placing census articles in newsletters, including census messages in employee paychecks, sponsoring census promotional events, and posting census promotional material in agency facilities.
- Partnerships with local organizations will aid in recruiting candidates to apply for census office and field enumerator positions. Temporary jobs will be available in all geographic areas.
- Partnerships with community-based organizations and local and tribal governments will identify strategic and high visibility locations in the community to place unaddressed questionnaires, called "Be Counted" forms, for people to pick up and complete. These partners also will recommend locations for Walk-in Questionnaire Assistance Centers and for office space to test and train temporary census workers.
- During the enumeration period, partnership and outreach efforts will remind people of ways to respond if they did not receive a questionnaire. Mail response rates will be available so that outreach/partnership efforts can target slow mail response areas.

### **Paid Advertising**

For the first time, a paid advertising campaign will be used for a decennial census. In designing the Census 2000 paid campaign, we have benefitted greatly from the

advice given by the U.S. military, the Postal Service, and private communications contractors, as well as from our own survey and focus group research. Young and Rubicam, Inc. and its partner agencies, Bravo, Mosaica, J. Curtis, Inc. and Grey and Grey Advertising, have been selected to conduct the 2000 campaign. The major components will include:

- A national media campaign, including TV (both broadcast and cable), radio, and print media, will be aimed at increasing mail response.
- Using national, regional, and local media outlets, the Young and Rubicam advertising agency will design and implement a flexible advertising effort directed at increasing mail response among targeted audiences, especially traditionally undercounted populations. The local effort will use, for example, community news outlets, posters, flyers, and mass transit advertising.

### **Special Methods to Encourage Response**

- **Integrated mailing package.** For the first time, the mailing package design--including the questionnaires, envelopes, motivational slogans, and logo--will be wholly compatible and integrated into the design of the rest of the marketing plan.
- **Direct mail campaign and mail strategy.** To increase questionnaire mail response, the Census Bureau will use a new strategy that will focus on multiple mail contacts with respondents, including mailing respondents an advance notice letter, an initial questionnaire and a thank you/reminder postcard.
- **Other ways to respond.** Also for the first time, special unaddressed questionnaires, called "Be Counted" forms, will be available at Walk-in Questionnaire Assistance Centers and other public locations for pick up and completion by people who believe that they have not been counted in the census.

Moreover, a well-publicized toll-free telephone number will assist those who request to respond to the census by this method.

### **Traditional Public Relations**

For Census 2000, the public relations effort will be decentralized with media specialists assigned directly to local census offices to cultivate press contacts and respond to media inquiries.

## Special Events

A variety of special events--such as parades, athletic events, public service television documentaries, Census in the Schools--will be co-sponsored by state, local, and tribal governments and by community organizations and businesses. The events will emphasize the importance of participating in the census and will motivate people to respond.

## MILESTONES

|              |  |
|--------------|--|
| July 1996    | Began hiring 12 government partnership specialists (one per region)                              |
| July 1996    | Began forming partnerships with local and tribal governments for geographic programs             |
| April 1997   | Began forming partnerships with national/umbrella governmental and nongovernmental organizations |
| October 1997 | Awarded contract to Young and Rubicam for paid advertising campaign                              |
| October 1997 | Began hiring media, community, and remaining government partnership specialists                  |
| October 1997 | Began forming partnerships with local media, community organizations, and businesses             |
| March 1998   | Implement prototype advertising campaign for Census 2000 Dress Rehearsal                         |

## V.A. QUESTIONNAIRE CONTENT

### OBJECTIVE

The goal in selecting Census 2000 questionnaire content is to meet the many statutory data requirements of Federal agencies, as well as the needs of state, local, and tribal governments to administer governmental programs. Given the many critical uses of census data, it is essential that the Census 2000 questionnaires contain those topics that will produce data our Nation will need as it enters the 21st Century. Nevertheless, the Census Bureau must balance the many demands for census information against the length of the questionnaires and the burden on the respondents to complete them.

### MAJOR FEATURES

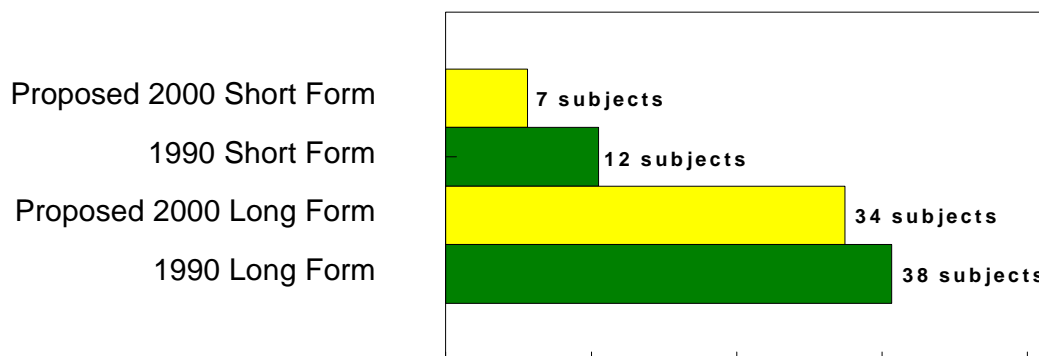
The content determination process is used to select the questions to be asked on the census forms. The objective of the Census 2000 content process is to develop questions that are easy to understand and answer by all segments of the population and thus yield the highest and most valid response.

The major components and general timing of Census 2000 content development activities are depicted in Figure V-1.

- Shortly after the 1990 census, the Census Bureau reviewed and evaluated the 1990 census questions through a content reinterview.
- The Census Bureau then organized an extensive review and consultation program to determine which subjects should be included in Census 2000.
- We assessed the legislative and geographic requirements of census data for both the Federal and non-Federal sectors. *Federal* agencies were asked to identify all legal mandates and programs requiring census data. *Non-Federal* requirements were obtained by means of a survey directed to a broad spectrum of data users such as state, local, and tribal governments; ethnic and community organizations; the business sector; academic researchers and librarians; religious groups; and the general public.
- We also maintained regular contact with our standing advisory committees, expert panels, professional associations, housing data-user groups, and community and ethnic organizations to ensure that all segments of the data-user community would be kept informed throughout the content development process.

**Figure V-1. Content Planning Path for Census 2000**

- Two census tests were conducted to evaluate the questionnaire content proposed for Census 2000. The most extensive of these was the 1996 National Content Survey (formally known as the U.S. Census 2000 Test), which was designed to test new and revised question wording, formatting, and sequencing. The 1996 Race and Ethnic Targeted Test (formally known as the 1996 Census Survey) examined several major possible changes to the race and ethnic questions for Census 2000. Also, the Census Bureau in partnership with the Bureau of Labor Statistics conducted a supplement on race and ethnicity to the May 1995 Current Population Survey. During this time, the Census Bureau also conducted a wide range of focus group studies and cognitive research to elicit information about questionnaire content and design.
- On March 31, 1997, as required by law, the Census Bureau submitted a list of subjects planned for inclusion in Census 2000 to the Secretary of Commerce for transmission to Congress. As the chart below shows, both the short and long forms proposed for Census 2000 have fewer subjects than their 1990 census counterparts.

**Table V-1**

- Table V-1 provides the current plans for content for the Census 2000 questionnaire.
- The law requires that the actual questions for Census 2000 be submitted to the Congress by April 1, 1998. Thus, we have determined the particular wording, format, and sequence of individual questions. To make these critical decisions, the Census Bureau was guided by:
  - Any budget and content constraints imposed by the Congress
  - The results of our Census 2000 research and testing program
  - The advice generated from our ongoing consultation process with stakeholders
  - The legislative requirements for data from the questions

**TABLE V-1. SUBJECTS PLANNED FOR INCLUSION IN CENSUS 2000****100-PERCENT SUBJECTS****POPULATION**

Name  
Sex  
Age  
Relationship  
Hispanic origin  
Race

**HOUSING**

Tenure (whether home is owned or rented)

**SAMPLE SUBJECTS****POPULATION*****Social characteristics:***

Marital status  
Place of birth, citizenship, and year of entry  
Education-school enrollment and educational attainment  
Ancestry  
Residence 5 years ago (migration)  
Language spoken at home  
Veteran status  
Disability  
Grandparents as caregivers \*

***Economic characteristics:***

Labor force status (current)  
Place of work and journey to work  
Work status last year  
Industry, occupation, and class of worker  
Income (previous year)

**HOUSING*****Physical characteristics:***

Units in structure  
Number of rooms  
Number of bedrooms  
Plumbing and kitchen facilities  
Year structure built  
Year moved into unit  
House heating fuel  
Telephone  
Vehicles available  
Farm residence

***Financial characteristics:***

Value of home  
Monthly rent (including congregate housing)  
Shelter costs (selected monthly owner costs)

---

\*New subject for Census 2000.

**1990 CENSUS SUBJECTS DROPPED FOR CENSUS 2000****POPULATION**

Children ever born (fertility)  
Year last worked (*An abbreviated screener will be included with questions about industry, occupation, and class of worker; this will allow us to reduce respondent burden and properly define the "experienced civilian labor force"*)

**HOUSING**

Source of water  
Sewage disposal  
Condominium status

- The questions we plan to ask in the Census 2000 Dress Rehearsal will be, to the greatest extent possible, the same as those we subsequently include in Census 2000. In this way, we can develop prototypes of the products planned for Census 2000, solicit comments from our stakeholders, and fine-tune the products for the census.
- The Census Bureau also is required by law to submit the recommended questions to the Office of Management and Budget (OMB), which has the responsibility of ensuring that the questions meet essential data needs and that respondent burden (the time it takes for the average household to fill out a questionnaire) is held to a minimum.

## **MILESTONES**

|                |  |
|----------------|--|
| March 31, 1997 | Submitted subjects planned for Census 2000 to the Congress |
| April 1, 1998  | Submit questions planned for Census 2000 to the Congress   |
| July 1998      | Submit questions planned for Census 2000 to OMB            |

## **V.B. MAILBACK QUESTIONNAIRE FORMS**

### **OBJECTIVE**

The goals in developing the Census 2000 questionnaires are to increase mail response and the accuracy of the information collected. The Census Bureau intends to do this by:

- Designing forms that are more respondent-friendly, and
- Increasing the number of mail contacts with respondents.

### **MAJOR FEATURES**

In Census 2000, the questionnaire mailout/mailback system again will be the primary means of census-taking. Cities, towns, and suburban areas with city style addresses (house number and street name), and rural areas where city style addresses are used for mail delivery will comprise the mailout/mailback areas. In areas where the addresses are predominantly non-city style, census enumerators will deliver addressed questionnaires for respondents to mail back.

#### **Respondent-Friendly Design**

The Census Bureau has been working with private sector designers to produce more streamlined forms that are easy to read and understand, show people why they are asked the questions, and are simple to fill out and mail back. One key innovation is that the design of the complete mailing package--including the outgoing and return envelopes, cover letter, questionnaire, motivational slogans, and logo--will be compatible and integrated with the rest of the marketing and communications effort.

The following user-friendly design features have been shown in our testing and research program to improve response and are being incorporated into the design of the Dress Rehearsal and Census 2000 forms:

- A larger, easier-to-read font
- Graphic icons distributed throughout the forms to illustrate the benefits of the census to the individual and community
- Strong visual contrast--using color and shading--between the questions and answer boxes to make it easier to identify the correct space to answer

- All questions for each household member grouped together in one space instead of in the row-column answer format with the questions placed vertically down the left-hand side of the page and the names of household members place horizontally across the top
- Navigational aids such as arrows to guide the respondent through the questionnaire
- Putting the respondent instructions directly on the form instead of in a separate guide

In redesigning the forms, the Census Bureau also is incorporating the specifications required for printing, postal delivery, and electronic image data capture.

### **Types of Mailback Questionnaires**

Census 2000 will include two types of questionnaires for mailout:

- A “short” form will be delivered to approximately 83 percent of all housing units. It will include the basic population and housing questions pertaining to each household member (up to 5 people) and housing unit. This form will allow the respondent to list up to 12 household members.
- A “long” form will be delivered to a sample--approximately 17 percent--of all housing units. It will include the short-form questions as well as additional questions on the characteristics of each household member (up to 5 people) and the housing unit. Obtaining these detailed, more comprehensive data on a sample basis is less costly than obtaining the same information from all housing units. This form will allow the respondent to list up to 12 household members.

### **Delivery of Questionnaires in Other Languages**

Questionnaires in English will be delivered to every housing unit. For the first time in a decennial census, specific neighborhoods will be targeted for delivery of questionnaires in Spanish or other languages, both short and long form. While the Census Bureau has made Spanish-language questionnaires available in the past, non-English questionnaires have never before been included in the initial mailout package.

### **Multiple Mailing Strategy**

The Census Bureau is investigating policy and operational issues of conducting a new mailing strategy for Census 2000. This strategy--which has been demonstrated in our testing and research to boost response--increases the number of mail contacts we have with respondents. The multiple mail contacts consist of:

- An advance notice letter to every mailout address that alerts households the census form is being sent to them soon
- A questionnaire to every mailout address
- A postcard to every mailout address that serves as a thank you for respondents who have mailed back their questionnaire or as a reminder to those who have not

A full-scale multiple mailing strategy, using first-class postage for all mailing pieces, will yield maximum mail response and increase the likelihood of delivery to the correct address. In areas where census enumerators will deliver questionnaires, the U.S. Postal Service will deliver an advance notice letter and thank you/reminder postcard to every "Residential Customer" so these people will be alerted to the census.

## **MILESTONES**

|               |  |
|---------------|--|
| November 1998 | Government Printing Office begins awarding contracts for printing short form and long form |
| February 2000 | Complete questionnaire printing and addressing for mailing                                 |
| March 2000    | USPS delivers questionnaire to every mailout address                                       |
| March 2000    | Census enumerators deliver questionnaires in areas lacking city style addresses            |

## **V.C. FIELD DATA COLLECTION FORMS**

### **OBJECTIVE**

While the mailout questionnaires will account for the bulk of Census 2000 data collection, the Census Bureau is developing many other forms to ensure that everyone has the opportunity to participate in Census 2000. These special forms will be used to enumerate people who live in a residence other than the usual house, apartment, or mobile home, or to increase the participation of people who might otherwise go uncounted in the census.

### **MAJOR FEATURES**

- Several types of questionnaires--containing only population questions for one person--will be used to enumerate specific segments of the population. These forms will be used to count people in living arrangements requiring special operations, such as college dormitories, nursing homes, shelters, and prisons. Long-form versions are being developed for some of the forms; many will be translated into Spanish.
- Short- and long-form "simplified enumerator questionnaires" are being developed that are worded to conform to a personal interview method of data collection. These forms will be used as basic data collection instruments by field enumerators during personal visits to households.
- A short form is being prepared for the Be Counted National campaign (see page IX-3) for people who did not receive a questionnaire or believe they were not included on a census form. These unaddressed Be Counted questionnaires will be printed in several languages and placed at locations where people frequent, such as in community centers and Walk-in Questionnaire Assistance Centers. The responses on these forms will be checked against census records to eliminate duplications.

### **MILESTONES**

July 1999    Begin questionnaire printing

April 1998

## V.D. SAMPLING PLAN FOR THE LONG-FORM QUESTIONNAIRE

### OBJECTIVE

Since the 1960 census, the bulk of decennial census data has been collected from a sample of housing units. Likewise in Census 2000, the Census Bureau will deliver the long-form questionnaire to a sample of housing units. The use of sampling will allow the Census Bureau to meet the objectives of reducing cost and maintaining the level of respondent burden comparable to the 1990 census.

### MAJOR FEATURES

Decennial census data collected on a variety of socioeconomic and housing subjects are required by Federal agencies for implementing programs defined in legislation. In addition, these data are used by state, local, and tribal governments, as well as the private sector for planning and developing social and economic policy and for a myriad of other uses.

To collect these valuable data, Census 2000 will implement a **variable rate sampling scheme**. Use of variable sampling rates will allow for more efficient allocation of the sample and will maintain the accuracy and reliability of census data at small geographic levels (block groups, census tracts, and small communities), while reducing respondent burden.

The variable rate sampling scheme for the Census 2000 long form will be similar to the 1990 census scheme and basically will be as follows:

- The overall sampling rate will be about 1-in-6 households or 17 percent.
- We will assign sampling rates of 1-in-2, 1-in-4, 1-in-6, or 1-in-8 to functioning governmental units and census tracts based on precensus counts of housing units. School districts will be considered governmental units, and the precensus counts of housing units for American Indian and Alaska Native areas will reflect the American Indian and Alaska Native populations.

### MILESTONES

|                |  |
|----------------|--|
| September 1998 | Determine final long-form sampling methodology                             |
| September 1999 | Determine long-form sample to implement variable-rate sampling methodology |

## **VI.A. ADDRESS LIST DEVELOPMENT**

### **OBJECTIVE**

The Census Bureau will construct a complete listing of living quarters to use for questionnaire delivery and to control the collection and tabulation of Census 2000 data.

### **MAJOR FEATURES**

To enumerate and tabulate Census 2000, the Census Bureau must identify all living quarters and locate these living quarters with respect to the geographic entities for which we report data. We accomplish this by creating and maintaining a Master Address File (MAF) that identifies all living quarters and spatially locates those addresses using our geographic database called TIGER®\*. The building and maintenance of the MAF and TIGER involve partnerships with other Federal agencies, state, local, and tribal governments, regional and metropolitan planning agencies, the private sector, and nongovernmental organizations.

In order for Census 2000 to be as accurate, complete and cost effective as possible, the address list that serves as the basic control for the census must be as accurate and complete as possible. If an address is not on the list, then its residents are less likely to be included in the census. Recognizing this fundamental connection and based on evidence gained from the experiences of the past two years, in September 1997, the Census Bureau completed an intensive Census 2000 Address List Reengineering effort. The reengineering led to changes in the initial plan that will increase the accuracy and completeness of the Census 2000 address list.

The inventory of all living quarters includes addresses and/or location descriptions for each housing unit and each group quarters. Except where the address list is created at the time of enumeration (for list/enumerate areas), each listing must have a complete address that can be used for mailing a census questionnaire and/or a location description that can be used by an enumerator to locate the living quarters. Each listing must be linked to the TIGER data base.

We are creating and maintaining the MAF through a series of operations, described in the following:

\*TIGER® is a registered trademark of the U.S. Bureau of the Census. For ease of presentation, the trademark symbols for TIGER and TIGER-related products are omitted from the text.

In areas where most mailing addresses are city style (for example, 101 Main Street) we:

- Create the MAF by combining addresses from the 1990 census Address Control File with those addresses in the USPS Delivery Sequence File (DSF). The 1990 census Address Control File is a nationwide file of addresses for all living quarters included in the 1990 census. The DSF is a national file of individual mail delivery point addresses. As part of a cooperative agreement, the USPS provides the Census Bureau with updated DSFs on a regular basis.
- Locate these addresses in the TIGER data base. Where we cannot locate an address, the location is researched and resolved through an office or field operation, or through assistance from local partners. As a result of this research, we identify new features and correct and add address ranges to the TIGER data base. (See page VII-1.)

Since we will use mailout/mailback enumeration methodology in areas with a predominance of mail delivery to city style addresses, we need to determine where mail is not delivered to city style addresses. In addition, there are some areas that are very remote or sparsely populated to which we want to send an enumerator only once. We identify these areas for different enumeration methodologies using information on the types of mail delivery, the types of addresses, and our regional office knowledge of the area. We create the address list in these areas during:

- Address listing operations. In areas where the addresses are predominately non-city style, the Census Bureau will create an address list through a door-to-door canvassing operation and identification of the location of each structure on census maps. The completed address listings and their map locations will be recorded in digital format and added to the MAF and TIGER data base, respectively. We will enumerate these areas by having enumerators leave addressed census questionnaires, which residents will complete and mail-back, during an update/leave operation (enumerators also update the address list and census maps during this operation). Where there is no mailing address for the listing or the mailing address is not a city style address, the listing will include a location description.
- List/enumerate operations. Census enumerators will create the address list at the time of enumeration while canvassing their assignment area and picking up or completing unaddressed questionnaires that the USPS previously delivered to each household. The completed address listings and their locations on a census map will be recorded in digital format and added to the MAF and TIGER data base.

- Map update operations. Before the address listing and list/enumerate operations, the Census Bureau will work with local and tribal government partners to update the streets and roads in the TIGER database. Updating the TIGER database with new development in these areas will make the address listing more efficient and help ensure that no living quarters are missed.

We will incorporate local knowledge to update the MAF through the Local Update of Census Addresses (LUCA) program. (See page VI-5.)

A separate operation will build an inventory of all special places. We will interview an official at each special place using a Facility Questionnaire. The responses to the questionnaire will identify each group quarters and any housing units associated with the special place. We will classify each group quarters and any housing units according to whether they will be enumerated as part of special place enumeration or through regular enumeration. We will add those group quarters and housing units to the MAF and link them to the TIGER data base, respectively.

In city style address areas, we introduced two operations as a result of the reengineering effort to improve the quality of the MAF. The Census Bureau will conduct a 100 percent block canvass to ensure consistently good address coverage in the MAF and to ensure correct geographic locations for all addresses. As close to Census Day as possible, we also will ask USPS letter carriers to validate the addresses in the MAF, identifying and adding addresses that are missing.

As another quality check, we will be comparing the number of addresses in the MAF with independent housing benchmarks for aggregated areas and releasing results for Census Divisions and at the national level.

## **MILESTONES**

|                     |   |
|---------------------|---|
| September 1997      | Determined areas for different enumeration methodology                              |
| January-April 1998  | Conduct the Map Update program for areas without city style addresses               |
| April-November 1998 | Conduct the LUCA program for city style address areas                               |
| July-December 1998  | Conduct address listing operations (except list/enumerate)                          |
| January-May 1999    | Conduct 100 percent block canvassing  |
| January-April 1999  | Conduct the LUCA program for address listing areas                                  |
| July 1999           | Deliver first nationwide MAF for Census 2000  |
| January 2000        | Conduct the Postal Check  |
| February 2000       | Complete MAF/TIGER integration for areas with mail delivery to city style addresses |

## **VI.B. ADDRESS LISTING**

### **OBJECTIVE**

To develop the Census 2000 address list in areas of predominantly non-city style addresses.

### **MAJOR FEATURES**

- Census enumerators will canvass their assignment areas and list each living quarters, recording its mailing address and a description of its physical location. The enumerators will identify the approximate location of each structure containing living quarters by placing a spot on a census map, and they will update the information on their maps.
- The Census Bureau will convert the addresses and map updates into computer readable form. As address listing is completed, the Census Bureau will data capture the address information in a keying operation. Address listing maps will be scanned to produce computer readable images of the map spots. In the final data capture step, the map spots and updated map information will be entered into the TIGER®\* data base.
- The Master Address File will be created for the listed areas from the address information identified and captured during the address listing operation.

### **MILESTONES**

|                              |   |
|------------------------------|---|
| January-May 1998             | Conduct Map Update operation                          |
| February-June 1998           | Update TIGER data base                                |
| August-December 1998         | Conduct address listing operation                     |
| September 1998-February 1999 | Add addresses to the MAF and map corrections to TIGER |
| January-April 1999           | Conduct the LUCA program for address listing areas    |

\*TIGER® is a registered trademark of the U.S. Bureau of the Census.

## **VI.C. LOCAL UPDATE OF CENSUS ADDRESSES PROGRAM**

### **OBJECTIVE**

To create partnerships with local and tribal governments to improve their jurisdictions' address list for Census 2000.

### **MAJOR FEATURES**

The Local Update of Census Addresses (LUCA) program is a partnership program that will allow the Census Bureau to benefit from local knowledge in developing its MAF. The participants will contribute to a more complete and accurate census for their area.

LUCA is made possible by the Census Address List Improvement Act of 1994 (P.L. 103-430) which, for the first time, authorizes designated representatives of local and tribal governments to review the MAF. The program will operate as follows:

- The local or tribal government will designate a liaison to review the portion of the MAF for their jurisdiction. The liaison will be subject to the same restrictions on revealing census information as are census workers. The address list is confidential under Title 13, and participants must sign an oath promising to protect the confidentiality of the addresses.
- The Census Bureau will send the liaison a listing from the MAF (in either paper or electronic form), the accompanying maps for their jurisdiction, and a tally of MAF records for each census block.
- The liaison will provide input regarding the completeness and accuracy of the MAF.
- Census Bureau staff will validate the address information provided by local and tribal participants and provide feedback about address actions it has taken to the participants.
- Following the feedback, Census Bureau staff will work with the local and tribal government participants to resolve any remaining differences.
- P.L. 103-430 allows the local participants to appeal final Census Bureau decisions.

- The Census Bureau will conduct the LUCA Program during two distinct time periods that correspond to the time schedule for developing the MAF. For areas with predominantly city style mailing addresses, participants may begin reviewing the address list in April 1998, because the MAF has been created using addresses obtained from the USPS. For other areas, the address list will not be available for review until 1999, after the Census Bureau completes the Address Listing Operation to create the MAF in these areas. These areas can get an early start by reviewing and updating maps for their communities in early 1998; this activity will benefit the Census Bureau's later address listing work by yielding more up-to-date street information for reference by the address listing field staff.
- The details of the LUCA program in remote or sparsely settled areas, where we compile address lists during enumeration, are under development.

## **MILESTONES**

### City Style Mailing Address Areas

|                           |   |
|---------------------------|---|
| January-February 1998     | Mail invitation letters for address list review to local and tribal governments |
| April-November 1998       | Local and tribal governments conduct review                                     |
| August 1998-February 1999 | Provide summary feedback to participants  |
| March-August 1999         | Provide specific address feedback to participants and reconcile differences     |
| May 1999-January 2000     | LUCA appeals  |

### Non-City Style Mailing Address Areas

|                       |   |
|-----------------------|---|
| January 1998          | Mail invitation letters for map review to local and tribal governments          |
| January-May 1998      | Local and tribal governments conduct map review                                 |
| September 1998        | Mail invitation letters for address list review to local and tribal governments |
| January-April 1999    | Local and tribal governments conduct address list review                        |
| March-August 1999     | Provide feedback to participants and reconcile differences                      |
| May 1999-January 2000 | LUCA appeals  |

## **VI.D. BLOCK CANVASSING**

### **OBJECTIVE**

To ensure the completeness and accuracy of the Census 2000 address list for areas having predominantly city style addresses used for mail delivery.

### **MAJOR FEATURES**

- Census enumerators will canvass every road and street looking for every place where people live or could live, comparing the address of each living quarters with the addresses in the Census 2000 address list. They will add addresses missing from the address list, delete addresses on the address list that duplicate other addresses or do not exist on the ground, and ensure all addresses are assigned to the correct geographic location. The enumerators also will update census maps with information about the location and names of roads and streets.
- The Census Bureau will convert the new and corrected address and map information into computer readable form. As block canvassing is completed, the Census Bureau will data capture the address updates in a keying operation and the updated map information will be entered into the TIGER®\* data base.
- The MAF will be updated with the results of the block canvassing in time to use the updated address information for delivery of questionnaires.

### **MILESTONES**

|                  |                          |
|------------------|--------------------------|
| January-May 1999 | Conduct block canvassing |
| April-June 1999  | Update the MAF and TIGER |

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## **VI.E. POSTAL CHECK**

### **OBJECTIVE**

To validate the city style addresses before the delivery of Census 2000 questionnaires through a check of the MAF by USPS letter carriers. This postal validation will help ensure that new construction and previously missed units are included in time for the Census 2000 questionnaire mailout.

### **MAJOR FEATURES**

- Following the LUCA and block canvassing operations, and as close to Census Day as possible, the Census Bureau will give the USPS the census addresses printed on cards.
- USPS letter carriers will compare the census addresses to the postal delivery addresses on their routes, adding addresses for which they do not have a census address card.
- The Census Bureau will key the addresses added by the USPS and add new addresses to the MAF.

### **MILESTONES**

|                            |  |
|----------------------------|--|
| November 1999              | Provide census addresses to USPS                     |
| December 1999-January 2000 | USPS compares census addresses to delivery addresses |
| February 2000              | Add new address to the MAF                           |

## **VII. GEOGRAPHIC DATA BASE DEVELOPMENT- TIGER®\***

### **OBJECTIVE**

To provide the necessary information to associate each living quarters in Census 2000 to a spatial location, each location to a specific geographic area, and each geographic area to the correct name or number and attributes.

### **MAJOR FEATURES**

The geographic data base for the census—TIGER (Topologically Integrated Geographic Encoding and Referencing)— provides the geographic structure for the control of the data collection, tabulation, and dissemination operations.

The geographic data base constantly changes. Not only are new streets built, but some streets cease to exist, and the path of some existing streets moves. The names and address ranges associated with these streets change, too. Not only is the inventory of geographic entities different from year to year, but also the boundaries, names, and related attributes for the entities may change.

To ensure that the information in the TIGER data base is complete and correct, the Census Bureau works in partnership with other Federal agencies, state, local, and tribal governments, and others in the public and private sectors. We maintain the TIGER data base through internal programs and partnership activities.

The Census Bureau obtains updates to the feature network, including associated address ranges, through the following operations:

- Census MAF building activities. These include office resolution of addresses that cannot be automatically spatially located and the various address list improvement operations.
- Partnership MAF building activities. These include the LUCA program, and local participation in the resolution of addresses that need to be spatially located.
- Digital files. Local and tribal governments with suitable digital files provide them to the Census Bureau in lieu of a manual updating process. We transfer the update information from the local file to the TIGER data base by an automated process.

\*TIGER® is a registered trademark of the U.S. Bureau of the Census. For ease of presentation, the trademark symbols for TIGER and TIGER-related products are omitted from the text.

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- Local and tribal governments. In response to a preview of the census map of their jurisdiction, local and tribal governments may furnish the Census Bureau with updated street features and their names.

We obtain updates to the boundaries, names, and attributes of the various geographic entities for which we tabulate data through various methods. These include:

- A voluntary survey designed to collect an accurate inventory of all active general-purpose governmental units and to obtain up-to-date information on boundary changes.
- A program that provides the highest elected official of each active general-purpose governmental unit with a copy of the census map that shows the jurisdiction boundaries we plan to use to tabulate Census 2000. The local or tribal official will review and validate these boundaries. This program replaces the local review of boundaries portion of the 1990 Postcensus Local Review Program.
- A program that provides local and tribal participants the opportunity to delineate Census 2000 participant statistical areas (block groups, census county divisions, census designated places, and census tracts).
- Additional programs that offer participants the opportunity to identify other areas for which the Census Bureau will tabulate data (for example, traffic analysis zones).

The Census 2000 boundaries for general-purpose governments and other legal entities are those legally in effect on January 1, 2000. Where the boundaries for any geographic entity intersect a feature, we assign any addresses associated with that feature to the geographic entity. The LUCA and boundary collection and validation programs also provide participants with the opportunity to review the assignment of addresses in their jurisdiction.

The information from all these programs and operations is inserted into the TIGER data base where it is processed and undergoes various checks for consistency and accuracy. As required by specific census operations, the Census Bureau creates extracts from the TIGER data base to produce the necessary map products and geographic files.

**MILESTONES**

|               |  |
|---------------|--|
| January 1998  | Begin survey to collect January 1, 1998 boundaries |
| November 1998 | Begin survey to collect January 1, 1999 boundaries |
| October 1999  | Begin survey to collect January 1, 2000 boundaries |
| January 2000  | Begin conducting final boundary validation         |
| October 2000  | Establish tabulation geographic structure          |

## **VIII.A. FIELD OFFICE INFRASTRUCTURE AND STAFFING**

### **OBJECTIVE**

To develop and set up an effective and cost-efficient infrastructure that supports complete and accurate enumeration in Census 2000 and the capture and processing of census information in time to meet Constitutional and legislative requirements.

### **MAJOR FEATURES**

Since the decennial census requires a massive mobilization of human and physical resources, the Census Bureau will develop an extensive temporary office infrastructure across the country to conduct Census 2000.

#### **Physical Infrastructure**

The function of each major infrastructure component is as follows:

Regional Census Centers (RCCs) - 12 stateside Centers (and an Area Office in Puerto Rico)

- Manage all census field data collection operations, address listing, and address list enhancement for city style address areas through a network of Census Field Offices (CFOs) and Local Census Offices (LCOs)
- Coordinate Local Update of Census Addresses (LUCA) activities
- Produce maps
- Conduct geographic activities such as geocoding, TIGER®\* data base updates, and working with local participants on the participant statistical programs and the P.L. 94-171 Redistricting Data Program
- Recruiting temporary staff
- Manage payroll and personnel administrative system

Census Field Offices (CFOs) - (402 Offices)

- Perform address listing
- Conduct local recruiting
- Perform clerical review of completed field work

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Local Census Offices (LCOs) - maximum 520 Offices (511 stateside, 9 in Puerto Rico)

- Produce enumerator maps and assignments
- Conduct local recruiting
- Conduct outreach and promotion (for example, the Be Counted campaign)
- Conduct group quarters/special place/service-based enumeration operations
- Coordinate military enumeration (if applicable)
- Conduct update/leave operation
- Conduct list/enumerate operation
- Conduct followup enumeration (nonresponse followup, coverage edit, address verification)
- Manage field staff payroll and personnel administrative system
- Perform block canvass operation (early opening LCOs)

Data Capture Center (DCC) in Jeffersonville, Indiana

- Process address listing
- Check in mail returns
- Edit questionnaires
- Conduct data capture
- Code questionnaires
- Process quality check survey
- Manage payroll and personnel administrative system

Other Data Capture Centers (DCCs) - 3 Centers

- Check in mail returns
- Edit questionnaires
- Conduct data capture
- Manage payroll and personnel administrative system

### **Establishing the above offices will involve the following activities:**

- Lease office space
- Obtain furniture, equipment, and supplies
- Procure and install computer hardware and software (except for CFOs)
- Establish voice and data line connections

### **Administrative Infrastructure**

In addition to physical infrastructure, there are administrative structure requirements that must be in place to recruit, manage, and pay the census workers who are hired.

These functions consist of the following:

- Develop system of competitive pay rates
- Develop position descriptions
- Validate selection aid test
- Implement Decennial Automated Name Check (DANC) system for criminal history screening of potential census workers
- Implement Preappointment Management System/Automated Decennial Administrative Management System (PAMS/ADAMS) to handle hiring of temporary census workers and to manage the payroll system
- Develop bonus/incentive pay system that supports producing a quality product, staff retention, and high productivity

## **MILESTONES**

|                             |   |
|-----------------------------|---|
| November 1997-March 1998    | Open RCCs   |
| June 1998-September 1998    | Open CFOs   |
| September 1998-October 1999 | Open LCOs (Early opening LCOs<br>September 1998; Late opening LCOs<br>October 1999) |
| April 1999-September 1999   | Open DCCs   |

## **VIII.B. FIELD OFFICE STAFFING**

### **OBJECTIVE**

To recruit and train a sufficient number of temporary census workers to complete Census 2000 operations on schedule.

### **MAJOR FEATURES**

The decennial census is the largest peacetime activity undertaken by the Federal Government. The Census Bureau expects to hire about 500,000 temporary census workers in the field to conduct Census 2000. Attaining this goal will require the recruiting and testing of nearly 3 million of persons for a wide range of positions such as local census office managers, enumerators, partnership specialists, media specialists, and clerks. This effort will require a very large recruiting effort throughout the country.

Every job applicant will have to take a written test and meet certain other requirements before being hired as a census worker. The Census Bureau will use the Decennial Applicant Name Check (DANC) system to screen all applicants for criminal histories. Qualified applicants who are selected will be required to take the oath of office and sign an affidavit of nondisclosure in which they agree they will "not disclose any information contained in the schedules [questionnaires], lists, or statements obtained for or prepared by the Bureau of the Census, to any person or persons either during or after employment."

In recognition of the changing composition of the labor force and the increasing difficulty in hiring a sufficiently large number of temporary census workers, especially enumerators, to conduct the census, the Census Bureau is implementing different and innovative methods of setting pay and incentives for persons to work on Census 2000. In addition, the Census Bureau is attempting to expand the labor pool from which it can recruit by negotiating with other Federal and state agencies that manage retirement and income transfer programs (Federal civilian and military retirement, Aid to Families with Dependent Children, Public and Indian Housing program, and so on) to reduce any barriers and encourage recipients of the various programs to work for the Census Bureau.

### **MILESTONES**

|              |   |
|--------------|---|
| January 1997 | Began DANC system                         |
| June 1998    | Begin recruiting for census field offices |

April 1998

## IX.A. BASIC ENUMERATION STRATEGY

### OBJECTIVE

To obtain a completed questionnaire for every housing unit in Census 2000.

### MAJOR FEATURES

To ensure that we obtain a completed questionnaire from every housing unit, the Census Bureau must first make sure that a questionnaire is delivered to every housing unit. We will accomplish this by using one of the following three basic data collection methods:

- **Mailout/mailback.** The Census Bureau will use U.S. Postal Service (USPS) letter carriers to deliver questionnaires to the vast majority of housing units that have city style addresses (house number and street name).
- **Update/leave.** In areas where the addresses used for mail delivery are predominantly noncity-style, enumerators will leave addressed census questionnaires at each housing unit for the householder to complete and mail back. They also will update and make any necessary corrections and/or additions to their maps and their address lists as they deliver the questionnaires.
- **List/enumerate.** In very remote or sparsely-populated areas, enumerators will visit each housing unit and pick up or complete unaddressed short-form questionnaires that the USPS previously delivered to each unit. The enumerators will ask additional long-form questions of a sample of units. They also will develop an address list for the area and spot the housing unit's location on a map.

Additional data collection strategies noted in the following sections cover enumeration of special population groups (for example, persons in group quarters and on military bases), people with no usual residence, and nonresponse followup of housing units that did not return a questionnaire.

### MILESTONES

|                         |   |
|-------------------------|---|
| March 13-March 15, 2000 | Deliver initial mailout/mailback questionnaires |
| March 3-March 30, 2000  | Conduct update/leave operation                  |
| March 31-May 1, 2000    | Conduct list/enumerate operation                |

## **IX.B. TELEPHONE ASSISTANCE AND THE INTERNET**

### **OBJECTIVE**

To provide respondents with convenient access to obtain assistance in the completion of their Census 2000 questionnaires or to respond directly to the census.

### **MAJOR FEATURES**

- The Census Bureau will contract for an extensive Telephone Questionnaire Assistance (TQA) operation to answer general questions about the census so that the respondent can complete the census questionnaire and mail it back. This service will have a well-publicized national toll-free number and will use an automated touch-tone system that can handle a large number of calls concurrently. Assistance will be available in English, Spanish, and other languages. There also will be a toll-free telephone device for the hearing impaired. Finally, respondents will be able to access a census Internet website for assistance in completing the census questionnaire.
- In addition, TQA will offer a means for callers to respond directly to the census. Operators will record answers to the census over the telephone, if this service is requested during telephone assistance. Assistance will be available in English, Spanish, and other languages.

### **MILESTONES**

|                 |                  |
|-----------------|------------------|
| October 1998    | To be determined |
| March-June 2000 | Conduct TQA      |

## **IX.C. BE COUNTED NATIONAL CAMPAIGN**

### **OBJECTIVE**

The Be Counted National Campaign will provide a means for people to be included in Census 2000 who may not have received a census questionnaire or believe they were not included on one. The Census Bureau will place particular emphasis on developing ways to include population groups that historically have been undercounted.

### **MAJOR FEATURES**

#### **Be Counted Questionnaire**

The Be Counted questionnaire is being designed to be respondent friendly and easy to understand and complete by anyone who picks it up. This would include people with a usual residence who did not receive a questionnaire at their address, people who believe the returned questionnaire for their address excluded them, people who require questionnaires in different languages, migrants or seasonal farm workers, those who have no usual residence, and so forth. These forms will contain short-form questions along with several additional items needed to process and match the forms to the census results.

#### **Questionnaires Available in Many Locations and In Numerous Languages**

Be Counted questionnaires will be accessible at public locations, such as Walk-in Questionnaire Assistance Centers and other places where people frequent.

The distribution of the Be Counted forms will begin just before Census Day and will end just before the nonresponse followup operation begins.

Be Counted forms will be printed in several languages in addition to English and Spanish. We will consult with our local partners to determine which languages to use for these forms.

**MILESTONES**

|                         |   |
|-------------------------|---|
| September 1998          | Submit printing specifications of Be Counted questionnaires for bid |
| August 1999             | Begin printing Be Counted questionnaires                            |
| March 31-April 12, 2000 | Conduct Be Counted Campaign   |

## **IX.D. PROCEDURES TO ENUMERATE SPECIAL POPULATIONS**

### **OBJECTIVE**

In Census 2000, the Census Bureau will implement a comprehensive set of procedures to enumerate people who do not live in traditional housing units. These include people who live in group quarters situations (for example, nursing homes, group homes, and colleges), people without housing, people who live at migrant and seasonal farmworker camps, and people living on military installations and ships. Special procedures also will be applied to those who live in unique areas of the country like remote Alaska.

### **MAJOR FEATURES**

#### **Special Place Facility Questionnaire Operation**

To enumerate people at these special locations, we must identify the places. Identification of these places will occur on a flow basis, by means of a procedure called the Special Place Facility Questionnaire Operation. This operation will update existing information for our inventory of special places and group quarters, identify additional group quarters, identify contact persons at each location, assign a group quarters type code, determine availability of administrative records, identify any housing units at and/or associated with the special place or group quarters, and collect other administrative information. Most information will be collected during an automated Computer-Assisted Telephone Interview (CATI), with some cases being completed by personal visit using a paper census questionnaire.

#### **Group Quarters Enumeration**

Staff in our local census offices will conduct the group quarters enumeration. Starting in January 2000, census workers will make advance visits to the group quarters to meet with facility staff and discuss the upcoming census enumeration. These visits are very beneficial because they promote and encourage participation in the census, and identify any difficulties that might be encountered during the enumeration. In April 2000, enumerators will enumerate people in each group quarters by listing all the residents and distributing questionnaire packets. When needed, enumerators will provide assistance in completing the questionnaires. Enumeration results will be checked and verified using a quality control checklist to ensure enumeration at the facility was complete.

A small number of facilities, such as jails and prisons, will self-enumerate their facility. These facilities will use regular census procedures to conduct the enumeration, and the facility staff become special sworn census employees to protect the confidentiality of the census information.

### **Transient Night (T-Night) Operation**

Transient night, commonly referred to as T-Night, is an operation designed to count persons of a highly transient nature. T-Night will take place on the day before Census Day (on Friday, March 31). T-Night enumerators will visit and interview people occupying campgrounds at racetracks, recreational vehicle (RV) campgrounds or RV parks, commercial or public campgrounds, fairs and carnivals, and marinas. Every person enumerated during T-Night will have the opportunity to report a usual residence.

On T-Night, enumerators will visit each assigned T-Night place, meet with a contact person at the site to explain the purpose of the visit, offer the Privacy Act notice, answer any questions, and verify information about the site. Then the enumerator will interview each person at the assigned location.

### **Remote Alaska Enumeration**

Several methods will be used to enumerate the varied types of areas in the State of Alaska. The two largest cities, Anchorage and Fairbanks (and their vicinities), will be designated as mailout/mailback areas due to their concentrated populations and existence of city style addresses. The rest of Alaska will be enumerated by the list/enumerate method, which also is being used in the sparsely populated areas of the lower 48 states.

The unusual feature of Census 2000 enumeration in Alaska will be the treatment of outlying or remote areas. Most of these settlements, located throughout the state, are accessible only by small-engine airplane, snowmobile, four-wheel-drive vehicle, dogsled, or a combination of these. Roads rarely exist to link the widely scattered settlements. These settlements range in population from a few people to several hundred persons, with a few larger places of 2,000 people or more.

The timing of the mailout/mailback enumeration will be the same as in other states. However, enumeration of the remote areas will begin earlier, in mid-February, but all census questions will be asked in relation to Census Day (April 1). The special timing will permit travel to these areas during the period when conditions will be most favorable. For example, the ground and rivers still will be frozen so that planes can fly in and out, and the residents will still be at home. Once the spring thaw (or "breakup" as it is known locally) begins, travel to some of these areas will be difficult or impossible, and the people will leave home to fish and hunt. Enumerators will have to finish their work before then, or they will miss a large part of the population.

## **Military/Maritime Enumeration**

People living on military installations and on maritime vessels will be enumerated during Census 2000. To enumerate people residing on military installations and on military ships, the Census Bureau will work with the Department of Defense and U.S. Coast Guard to identify housing units and other living quarters on the installations, and ships in U.S. waters. Different enumeration methodologies, such as mailing census questionnaires to housing units on installations and enumerating people at their work station, will be used.

The Census Bureau will work with the U.S. Maritime Administration and others to identify maritime vessels in operation at the time of the census and mail enumeration materials to those vessels for completion.

## **MILESTONES**

|                      |  |
|----------------------|--|
| June 1998-March 2000 | Conduct Special Place Facility Questionnaire Operation                         |
| January 2000         | Conduct advance visits to special places/group quarters                        |
| January 2000         | Conduct local knowledge update of group quarters locations                     |
| February 2000        | Begin enumeration in remote Alaska   |
| March 31, 2000       | Conduct T-night operation  |
| April 3-May 6, 2000  | Enumerate people at group quarters and conduct coverage improvement validation |

## **IX.E. ENUMERATION OF PEOPLE WITH NO USUAL RESIDENCE**

### **OBJECTIVES**

To enumerate people with no usual residence in Census 2000. This operation, called Service-Based Enumeration (SBE), is designed to improve the count of an area by including people who use services and who might not be included through other enumeration methods.

### **MAJOR FEATURES**

The following SBE procedures are designed to include people who might otherwise be missed in the census by enumerating them at selected service locations, such as shelters and soup kitchens, and at targeted non-sheltered outdoor locations. SBE will not provide a count of homeless persons or of service users.

- The Census Bureau will work with local governments and community-based organizations to identify the list of service locations open at census time.
- Using simplified enumeration procedures and forms, the Census Bureau will conduct a one-time enumeration at shelters, soup kitchens, and regularly scheduled mobile food vans that provide services primarily for people without housing.
- The Census Bureau will use statistical techniques to improve the enumeration of people without housing.
- The Census Bureau plans to have enumerators visit targeted non-sheltered outdoor locations where people without housing congregate. These sites will be identified by local officials, advocacy groups, and community-based organizations.
- The Census Bureau will work with local officials and community-based organizations to identify camps and other locations where migrant and seasonal farmworkers can be found at the time of the census.

In addition to being enumerated at the designated service locations, people with no usual residence will be able to pick up Be Counted questionnaires at other selected service locations, such as clothing distribution centers, drop-in centers, and health care clinics serving people without housing.

We also will publicize a national toll-free telephone number and encourage people to respond that way if they do not have access to a census questionnaire.

**MILESTONES**

|                           |   |
|---------------------------|---|
| March-July 1999           | Develop list of service locations                         |
| April 3 and April 5, 2000 | Conduct enumeration of people at service locations        |
| April 2000                | Distribute Be Counted questionnaires at service locations |

## **IX.F. SPECIAL DATA COLLECTION METHODS FOR TARGETED AREAS**

### **OBJECTIVE**

To overcome barriers to successful enumeration in Census 2000 by implementing special data collection methods in targeted areas.

### **DESCRIPTION**

Many targeted methods will be used in Census 2000:

- The regional census centers will use 1990 Census data and their knowledge of local conditions to identify the most appropriate areas in which we might use targeted methods designed to overcome difficult enumeration barriers.
- This information will be shared with officials of local and tribal governments. In close consultation with these officials, we will then identify, in advance, areas that likely will require additional “get out the count” efforts.
- A team or crew of enumerators will go into a targeted area and conduct the enumeration in a short period of time. Team enumeration will be used in areas where field conditions may interfere with the timely completion of the enumeration. These conditions may be high concentrations of multiunit buildings, enumerator safety concerns, low enumerator production rates, and so forth.
- A Be Counted National campaign will make unaddressed Be Counted questionnaires available in sites such as Walk-in Questionnaire Assistance Centers and other publicly accessible locations for pick up and completion by people who believe that they have not been counted in the census.
- Mail response rates and maps will be available to local and tribal officials periodically during the census enumeration. They will work in partnership with census staff to identify unexpectedly low response areas. Targeted enumeration efforts and additional outreach and publicity activities then will be implemented.
- In partnership with local and tribal governments and community-based organizations, the local census offices will establish Walk-in Questionnaire Assistance Centers in their communities (for example, in non-English speaking areas) to assist respondents in completing their questionnaires. These centers will be established in community centers, large apartment buildings, and so forth.

- Assistance in various foreign languages will be provided for people who are not able to respond to questionnaires in English or Spanish.

## **MILESTONES**

|                         |   |
|-------------------------|---|
| March 2000              | Open Walk-in Questionnaire Assistance Centers |
| March 31-April 12, 2000 | Conduct Be Counted Campaign                   |

## **IX.G. VACANT HOUSING UNIT FOLLOWUP**

### **OBJECTIVE**

To verify the accuracy of vacant housing unit information provided to the Census Bureau by the U.S. Postal Service (USPS).

### **MAJOR FEATURES**

- A 30-percent sample of housing units designated as vacant by the USPS will be selected for followup during the nonresponse followup operation by census enumerators to determine if those units were truly vacant on Census Day. This will ensure the integrity of the vacancy information provided by the USPS.
- We also will gather information about the characteristics of those vacant housing units. Additional vacant units will be encountered by enumerators during nonresponse followup that were not designated as such by the USPS.
- As a final check, the consistency of the vacancy rates with independent estimates and historical data will be assessed.

### **MILESTONES**

April-June 2000    Conduct vacant housing unit followup (as part of the nonresponse followup operation)

## **IX.H. LARGE HOUSEHOLD FOLLOW-UP**

### **OBJECTIVE**

To obtain Census 2000 data for all residents of households with more than five persons.

### **MAJOR FEATURES**

Both short- and long-form census questionnaires will allow for up to five persons to provide census information about themselves. If the person filling out the questionnaire indicates that there are six or more persons in the housing unit, the Census Bureau will conduct a followup operation to obtain information for the additional residents.

### **MILESTONES**

April-June 2000    Conduct large household followup

## **IX.I. UNDUPLICATION OF RESPONSES**

### **OBJECTIVE**

To eliminate duplicate addresses and questionnaires in Census 2000.

### **MAJOR FEATURES**

One of the main goals of Census 2000 is to make it simpler for people to be counted. In addition to our standard enumeration methodology for an area (for example, mailout/mailback data collection), census forms will be made readily available in public places and provided in multiple languages. Responses to the census also will be accepted over the telephone. Providing these response options will make it easier for persons to be counted but may increase the possibility that multiple responses will be submitted for a given person and household.

A complete, accurate address list, high speed data capture capabilities, along with automated matching technologies, will be the keys to avoiding the duplication of people and residences. The control of the enumeration of Census 2000 will be based on an address list called the Master Address File (MAF). Every housing unit in the census will have a unique identifier. Every response to the census will be data captured and then linked to an address in the MAF using powerful matching computer programs to assign the identifier. Once a response is linked to the MAF, we will be able to determine when multiple returns for a housing unit have been submitted. Matching tools again will be applied to identify and correct instances of duplicate counting of individuals.

Unduplication of multiple responses in past censuses would have required a massive clerical operation since only a small subset of person names was data captured. An automated matching capability was not feasible without the names of each of the persons on census forms. It would have been necessary to clerically compare the information on the individual forms and then feed the results into the computer.

Since the 1990 census, we have embarked on a path that will ensure timely, complete capture of all census responses. This includes the telephone call-ins of census responses, in addition to the commitment to use imaging technology with electronic optical mark and intelligent character recognition for the data capture of information from the paper forms. High speed capture will allow the Census Bureau to accelerate the process of capturing the names and demographic characteristics of all persons on the paper forms.

The advances in computer technology in the areas of computer storage, retrieval, and matching, along with image capture and recognition, have now given the Census Bureau the flexibility to provide multiple response options without incurring undue risk to the accuracy of the resulting census data.

As a further safeguard of the quality of the census enumeration, we will develop statistical procedures to identify areas from which we receive unusually large numbers of unaddressed Be Counted questionnaires and will verify the validity of the census responses.

## **MILESTONES**

June-July 2000    Conduct unduplication of multiple responses

April 1998

## **IX.J. COVERAGE EDIT**

### **OBJECTIVE**

To improve the coverage of persons in housing units in Census 2000.

### **MAJOR FEATURES**

In Census 2000, a coverage edit will be performed to review Census 2000 questionnaires for potential missing people. After the Census Bureau receives the questionnaires, they will be checked to see if there is any discrepancy between the number of persons reported as members of that household and the number of persons for whom census information was provided on the form. For example, the respondent may have indicated that five people lived in the housing unit, but there was information for only two people. For these discrepancies, telephone clerks will call the household to resolve the problem. There will be no personal visit followup for households with reporting discrepancies that we cannot reach by telephone.

The coverage edit should not be confused with the quality check survey (Integrated Coverage Measurement), the edit and followup of large households, or the content edit (for missing or incomplete responses to population or housing items). (The content edit in Census 2000 will be completed solely by computer with no telephone or personal visit followup.)

### **MILESTONES**

|            |   |
|------------|---|
| March 2000 | Identify housing units requiring coverage edit followup |
| March 2000 | Conduct coverage edit followup operation                |

## IX.K. NONRESPONSE FOLLOWUP STRATEGY

### OBJECTIVE

The Census Bureau will make every effort to secure a response in Census 2000 from every resident and every housing unit. Following that, and to ensure an acceptable response among all census tracts, the Census Bureau will use statistical sampling to complete the enumeration in each census tract.

### MAJOR FEATURES

- During the initial response period (the period immediately before and immediately after Census Day), the Census Bureau will issue reminder publicity urging people to return their questionnaires, fill out Be Counted questionnaires, or use the telephone to provide their census responses.
- After the initial response period, the Census Bureau will determine the response rate for every census tract, which is a neighborhood that has an average of about 4,000 people. The response rate is defined as:

$$\frac{\text{Mail + Telephone + Other Responses}}{\text{Questionnaires Mailed or Delivered}} \times 100\%$$

- For any census tract in which this rate is less than 100 percent, the Census Bureau will select a sample of nonresponding addresses. The sample will vary from census tract to census tract based upon the particular response level and will be designed to achieve at least a 90-percent total response rate in each census tract.
- Enumerators will perform NRFU for each of the selected sample addresses. The addresses will be visited by an enumerator who will complete a questionnaire by personal interview.
- The Census Bureau will not use sampling to complete the enumeration on American Indian reservations, or in Alaska Native Village statistical areas, the U.S. Virgin Islands, or the Pacific Island Areas.

### MILESTONES

|                 |                                      |
|-----------------|--------------------------------------|
| January 1997    | Determined NRFU plan for Census 2000 |
| April-June 2000 | Conduct NRFU                         |

## **IX.L. QUALITY CHECK (INTEGRATED COVERAGE MEASUREMENT) SURVEY**

### **OBJECTIVE**

To produce a “one-number” census estimate of the U.S. population in Census 2000 that will improve accuracy, reduce costs, and eliminate confusion and controversy caused by having more than one number measuring the same population.

### **MAJOR FEATURES**

In Census 2000, the Census Bureau will conduct a “one-number” census of population and housing. That is, there will be just one set of official census results produced by the legal deadlines. In recent past censuses, the population counts were represented by two sets of numbers: the number of people actually counted and the number of people estimated to be living in the United States, after compensating for enumeration errors. Figure IX-1 provides a summary of this process.

The quality check of Census 2000 results, known as the Integrated Coverage Measurement (ICM) Survey, will be composed of three phases:

- Housing Unit Phase
- Quality Check Computer Assisted Person Interview (CAPI) Phase
- Person Matching Phase

#### **Housing Unit Phase**

During this phase, housing units within the sample blocks will be listed independently of the census and later matched to the census inventory of housing units. After reconciling the differences, a list of housing units that are confirmed to have existed within the sample blocks on Census Day will be prepared for conducting quality check computer assisted person interview.

#### **Quality Check Computer Assisted Person Interview Phase**

In this phase, the interviewer will collect information about the current residents and anyone who has moved out of the sample block between Census Day and the time of the interview. The interviewer will ask questions about alternate residences to establish where people lived on Census Day according to census residence rules. Interviews will be conducted either by telephone or personal visit. Telephone interviews will be conducted before the completion of the initial phase of the Census Nonresponse Follow-up operation for the sample area, but will include only a subset of households in the sample area that, in addition to meeting other established

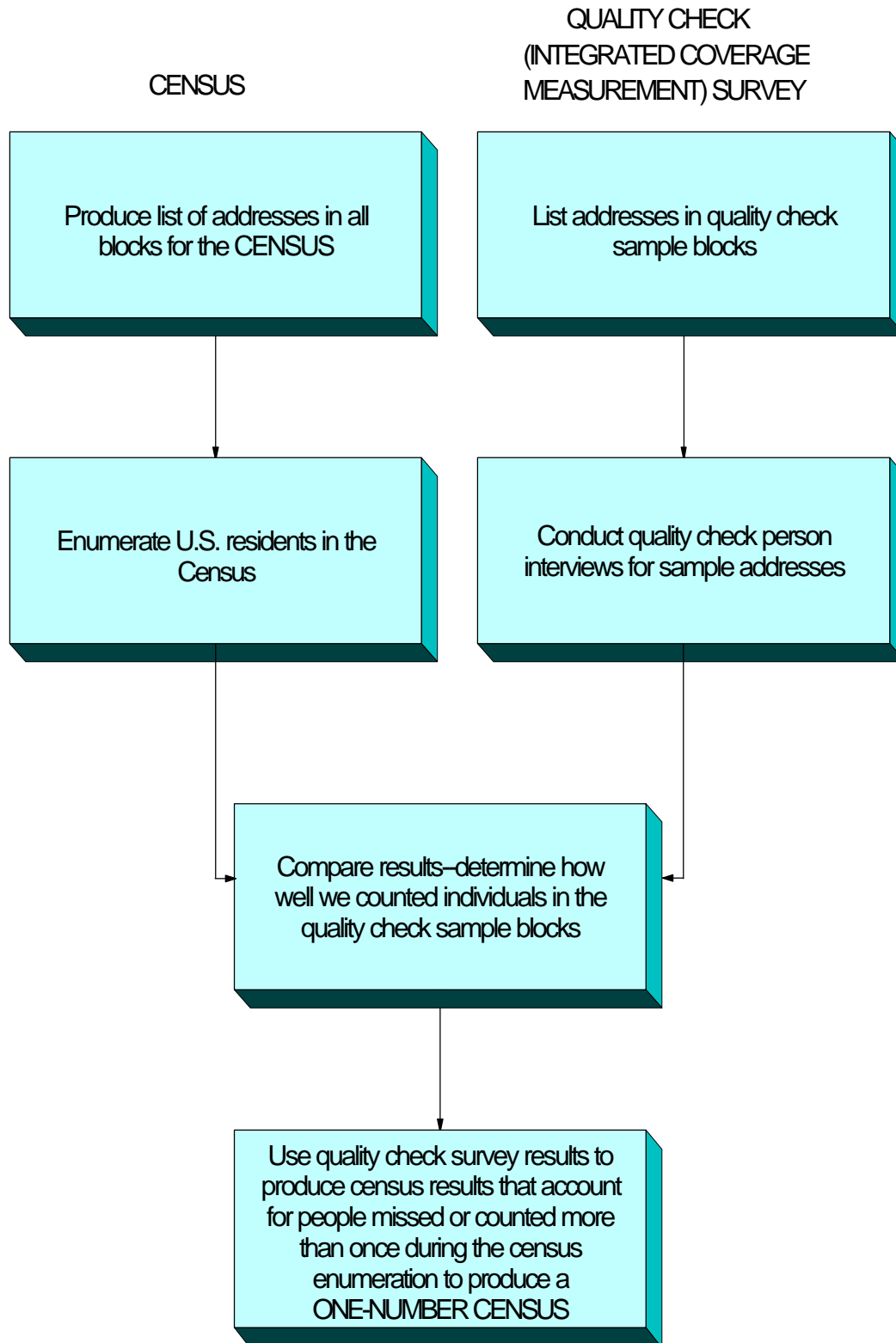
criteria, returned their census questionnaires and provided their telephone numbers. After the conclusion of the Census Nonresponse Follow-up operation for a sample area, all remaining sample cases will be interviewed using a CAPI person-to-person approach. Telephone interviews may also be used later in the process for hard to enumerate areas or situations.

### **Person Matching Phase**

In this phase, the people counted in the quality check survey will be compared with those enumerated in the census. After the matching is completed, a field CAPI Person Follow-up interview is conducted for reconciling selected cases. After this person phase is completed, using statistical procedures, the Census Bureau will produce estimates of people missed or duplicated in the census enumeration. These estimates then will be used to update the final census data files to produce the one-number census results.

### **MILESTONES**

|                          |  |
|--------------------------|--|
| April 1999               | Select quality check sample                      |
| July-December 1999       | Conduct housing unit listing phase               |
| January-March 2000       | Conduct housing unit matching and followup phase |
| April-July 2000          | Conduct quality check person interviewing phase  |
| July-September 2000      | Conduct person matching and followup phase       |
| October-November 2000    | Conduct missing data and estimation procedures   |
| December 2000-March 2001 | Create P.L. 94-171 redistricting data products   |

**Figure IX-1. The Path to a One-Number Census**



### IX.M. POTENTIAL EFFECT OF NONRESPONSE FOLLOWUP AND QUALITY CHECK (INTEGRATED COVERAGE MEASUREMENT) SAMPLING OPTIONS

The Census 2000 plan calls for the innovative use of statistical sampling for conducting two major census operations. These operations are sampling for nonresponse followup (NRFU) and for a quality check called Integrated Coverage Measurement (ICM). These two operations have different goals, but they complement each other.

Sampling for nonresponse will be used to complete the census enumeration. This is a major departure from the process used in previous censuses. Rather than visiting all households that do not provide a response during the initial response period, census enumerators will visit and conduct interviews for a representative sample of those households. Information collected during this operation will be used to estimate the characteristics of the households not included in the sample.

After completion of census NRFU operations, we will conduct a follow-up survey of a representative sample of housing units across the nation. This operation is referred to as the census quality check or ICM survey. This survey is designed to identify people missed in enumerated housing units and in missed housing units, as well as identifying people that were counted in the wrong place or more than once during the initial census enumeration.

The final population estimates are the result of combining information collected from responses to the census, including mail returns and other opportunities to respond (such as on the Be Counted questionnaires or by phone) with results from the census NRFU and quality check operations.

Because the nonresponse and quality check operations are sample-based, they contribute error to the census population estimates. This error is referred to as **sampling error**. Conversely, the quality check operations should result in a reduction of the largest source of error in previous censuses, coverage error. Coverage error occurs differentially across geographic areas and among different population groups. This error is more commonly referred to as the **undercount**.

Table IX-1 provides a comparison of the 1990 census undercount rates with the potential sampling error for Census 2000 for major racial and ethnic groups for the United States. The two statistics provided for each estimate are as follows:

- Estimated coefficients of variation (CV) for Census 2000 estimates, which account for the error contribution from the nonresponse and quality check sampling operations. A coefficient of variation expresses the error (sampling) as a percent of the population estimate. These estimates are based on an empirical simulation using data from the 1990 PES to approximate the results of the 2000 ICM, and will be refined as the ICM design is further developed.
- Undercount rates for the 1990 census, as measured by the 1990 Post-Enumeration Survey. An undercount rate expresses the error (nonsampling) as a percent of the population estimate.

For example, Table IX-1 shows that the 1990 census missed 5.0 percent of the Hispanic population in the United States. The implementation of the Census 2000 plan will introduce a sampling error of 0.8 percent for the Hispanic population but will remove the coverage error for a net improvement of about 4.2 percent.

**TABLE IX-1. POTENTIAL EFFECT OF NONRESPONSE FOLLOWUP AND QUALITY CHECK SAMPLING OPTIONS ON ESTIMATES OF THE U.S. POPULATION AND THE MAJOR RACIAL/ETHNIC GROUPS**

|                                      | Census 2000   | 1990 Census     |
|--------------------------------------|---|-----------------|
| Race                                 | Estimated sampling error (coefficient of variation) | Undercount Rate |
| United States, total                 | 0.1%  | 1.6%            |
| White, non-Hispanic                  | 0.1%  | 0.7%            |
| Black                                | 0.6%  | 4.4%            |
| Asian and Pacific Islander           | 1.4%  | 2.3%            |
| American Indian                      | 1.4%  | 4.5%            |
| Hispanic origin (may be of any race) | 0.8%  | 5.0%            |

## IX.N. DEMOGRAPHIC ANALYSIS

### OBJECTIVE

To use independent estimates to validate the quality check estimates and the “one-number” census results in Census 2000.

### MAJOR FEATURES

Demographic analysis (DA) represents a macro-level approach to measuring coverage. The demographic approach differs fundamentally from the quality check estimates, which represent a micro-level approach (case-by-case matching).

Demographic estimates of net undercount are derived by comparing census results to estimates based largely on aggregate administrative data. The national estimates for the population below age 65 are derived by the basic demographic accounting equation:

$$\text{Population} = \text{Births} - \text{Deaths} + \text{Immigrants} - \text{Emigrants}$$

Aggregate medicare data are used to estimate the population 65 years and over. To produce estimates below the national level, the equation is modified to allow for domestic migration. Since administrative records are utilized, the DA estimates are derived independently of the census being evaluated.

*Use of Demographic Analysis in Census 2000* - Demographic analysis will provide checks at two distinct points in the Census 2000 process. First, DA will be compared with preliminary census results before the quality check operation to provide an early assessment of coverage differentials at the national and state levels. Second, the DA estimates will be used to validate the quality check estimates and ensure the demographic consistency of the final one-number census results.

Below the state level, we will use independent population and housing estimates, aggregate administrative records, and other analytic tools as benchmarks to assess the quality of the evolving census results. In addition to broad coverage checks of population and housing, this review can identify content problems and possible anomalies due to geocoding and other nonsampling errors.

### MILESTONES

|               |   |
|---------------|---|
| August 1998   | Implement features of DA in Dress Rehearsal                         |
| February 2000 | Evaluate quality/completeness of MAF                                |
| August 2000   | Evaluate quality/completeness of “pre-quality check” census results |
| December 2000 | Validate quality check estimates and one-number census results      |

April 1998

## **X. AMERICAN INDIAN AND ALASKA NATIVE AREAS AND HAWAIIAN HOMELANDS**

### **OBJECTIVE**

To conduct the best possible enumeration in Census 2000 of American Indian and Alaska Native Areas (AIANA) and Hawaiian Homelands.

### **MAJOR FEATURES**

The Census Bureau will base its strategy for enumerating the populations in AIANA and in Hawaiian Homelands on building partnerships for:

- Address list development
- Geographic programs
- Outreach and promotion
- Field operations
- Data collection methodologies
- Data processing and dissemination

#### **Address List Development**

In areas where the U.S. Postal Service (USPS) delivers mail to city style addresses, we will use the USPS Delivery Sequence File to build the address list and use the mailout/mailback methodology for enumeration. In other areas, we will conduct an address listing operation prior to the census and use the update/leave with respondent mailback of the questionnaire methodology. In more remote areas, we will use the list/enumerate methodology. Tribal governments will have an opportunity to review the address list for their jurisdiction as part of the LUCA program. (See page VI-5.)

#### **Geographic Programs**

Table X-1 shows the wide diversity of programs the Census Bureau will offer American Indian tribes, Alaska Native areas, and Hawaiian Homelands to review and define geographic areas.

#### **Outreach and Promotion**

Census Bureau staff and tribal liaisons will compile a listing of all electronic and print media within the marketing area for paid promotion dissemination. In addition, the Census Bureau will seek the help of tribal liaisons and Complete Count Committees (if the tribes form them) to assist with outreach (census awareness and education) and the promotional campaign, using national or local materials.

## **Field Operations**

The Census Bureau plans to obtain assistance with the following activities:

- Provide local office space for testing and training
- Participate in training local census office staff (such as in cultural awareness)
- Assist in recruiting strategies for filling census jobs and identifying local referrals for assistance
- Assist and advise census field staff about potential problem situations
- Attend and participate in periodic census/tribal staff meetings
- Identify sites for Questionnaire Assistance Centers
- Identify locations for distributing Be Counted questionnaires

## **Data Collection Methodologies**

The Census Bureau will work with tribal officials to select the appropriate data collection methodology or combination of methodologies for each area. These methodologies will range from the use of mailing lists with the respondent either receiving a questionnaire in the mail (mailout/mailback) or an enumerator leaving the form for the respondent to return by mail (update/leave) to the enumerator listing the housing unit and conducting the census interview in one visit (list/enumerate).

## **Data Processing and Dissemination**

Census 2000 data collected in the AIANA and the Hawaiian Homelands will be processed and disseminated in the same way as information collected for the rest of the Nation. (See page XII-1.)

## **MILESTONES**

|                |   |
|----------------|---|
| September 1998 | Complete holding tribal consultation meetings |
| April 2000     | Complete definition of geographic areas.      |

Table X-1. Census 2000 Geographic Programs for American Indian and Alaska Native Areas and Hawaiian Homelands

| Geographic Program   | Type of Area   | Purpose of Program  |
|--|--|---|
| Tribal Review Program  | Federally recognized tribes with a land base   | Provide boundary and feature updates  |
| Block Definition Project   | Federally recognized tribes with a land base and Federally recognized tribes in Oklahoma without a land base | Identify Census 2000 block boundaries   |
| Participant Statistical Areas  | Federally recognized tribes with a land base and Federally recognized tribes in Oklahoma without a land base | Define statistical areas such as census tracts, block groups, census designated places, and census county divisions |
| Tribal Subdivision Program (Proposed)                                | Federally recognized tribes with a land base   | Designate special subdivisions (NEW)  |
| Tribal Jurisdiction Statistical Area Program                         | Federally recognized tribes in Oklahoma without a land base  | Delineate an identifiable land area as a tribal jurisdiction statistical area                                       |
| Tribal Designated Statistical Area Program (Proposed)                | Federally recognized tribes outside Oklahoma without a land base   | Delineate an identifiable land area as a tribal designated statistical area   |
| Alaska Native Regional Corporation Program                           | Alaska Native areas  | Alaska Native Regional Corporations review and update boundaries  |
| Alaska Native Village Statistical Area Program                       | Alaska Native areas  | Alaska Native Regional Corporations delineate, review, and update boundaries for these areas                        |
| State Reservation Program  | State recognized tribes with a land base   | State government liaison can review and update boundaries   |
| State Designated American Indian Statistical Area Program (Proposed) | State recognized tribes without a land base  | Replaces 1990 Tribal Designated Statistical Area program for state recognized tribes                                |
| Hawaiian Homelands (Proposed)  | Areas recognized by the Department of Hawaiian Homelands   | New program to identify and include Hawaiian Homelands in TIGER data base   |

April 1998

## **XI.A. TELECOMMUNICATIONS SUPPORT**

### **OBJECTIVE**

To provide the infrastructure necessary to support the Census 2000 telecommunications requirements.

### **MAJOR FEATURES**

The planned Census 2000 telecommunications network will encompass communication links between the following facilities:

- Census Bureau Headquarters in Suitland, Maryland
- 12 Regional Offices (ROs)
- Bowie, Maryland Computer Center
- 12 Regional Census Centers (RCCs)
- Jeffersonville, Indiana Data Capture Center (DCC)
- 3 contracted Data Capture Centers (DCCs)
- Approximately 520 Local Census Offices (LCOs)

In addition, we intend to establish communication links to the planned opening of commercial telephone centers to support Telephone Questionnaire Assistance.

Figure XI-1 shows the Wide Area Network (WAN) diagram for Census 2000. We plan to use Asynchronous Transfer Mode (ATM) as our communications link (via frame relay or another type of dedicated link) between Headquarters, Bowie Computer Center, and the DCCs. The ROs, RCCs, and LCOs will be linked to the frame relay cloud (the communications network provided by the telephone company) via leased T1 communication lines.

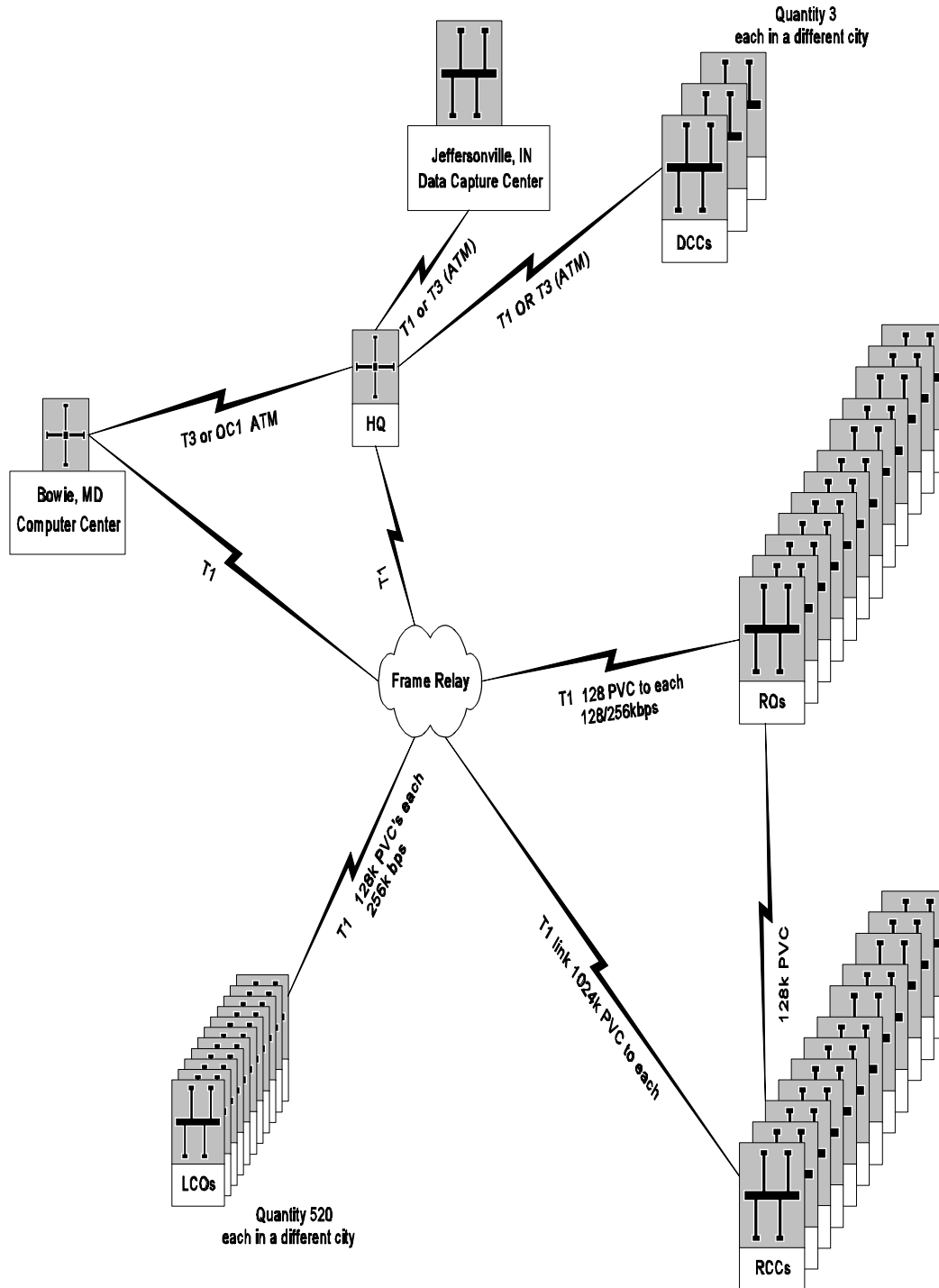
### **MILESTONES**

Define telecommunications requirements for:

|                         |                                    |
|-------------------------|------------------------------------|
| Currently operational   | Bowie Computer Center              |
| October 1995-April 1997 | Regional Census Centers            |
| January 1996-March 1997 | Jeffersonville Data Capture Center |
| January 1996-March 1997 | Contracted Data Capture Centers    |
| July-September 1997     | Local Census Offices               |

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Figure XI-1. Census 2000 WAN DIAGRAM



## **XI.B. DATA CAPTURE SYSTEM**

### **OBJECTIVE**

To utilize the best available data capture methodology in Census 2000.

### **MAJOR FEATURES**

The Census 2000 data capture methodology must utilize the best available technology that will accommodate the use of respondent-friendly questionnaires. The Census Bureau has identified components of the data capture process that may be best performed and provided by private-sector partners. The Census Bureau will be able to take advantage of available commercial off-the-shelf hardware and software representing technological advancements in information technology and systems without limiting itself to creating in-house solutions.

The following are the most significant features of the Data Capture System 2000 (DCS 2000):

- Four centers will be responsible for data capture and data processing functions.
- A full electronic data capture and processing system will record an image of every questionnaire.
- Mail-return questionnaires will be sorted automatically to ensure timely conversion and capture of critical information needed before nonresponse follow-up activity begins.
- Optical mark recognition (OMR) will be used for all check-box data items.
- Intelligent character recognition (ICR) will be used to capture write-in character-based data items.
- Key-from-image will capture and/or resolve difficult ICR cases.
- Quality assurance will be conducted on data keying and scanning activities.
- Paper questionnaires will be handled only at the beginning of the data capture process: during check-in, forms preparation, and scanning. To the maximum extent, all subsequent operations will be accomplished using the electronic image and captured data, reducing the logistical and staffing requirements for handling large volumes of paper questionnaires.

## **MILESTONES**

|                             |   |
|-----------------------------|---|
| March 1997                  | Awarded Data Capture System 2000 contract   |
| March 1997-May 1997         | Prepared system development plan            |
| March 1997-June 1997        | Prepared operations and facilities plan     |
| March 1998-July 1998        | Demonstrate plan                            |
| January 1998-June 1998      | Finalize Operation Facility Plan            |
| January 1998-September 1999 | Open data capture centers/install equipment |
| March 2000                  | Begin data capture of Census 2000 forms     |

## **XI.C. AUTOMATED DATA PROCESSING SYSTEM**

### **OBJECTIVE**

To develop an effective and efficient system for controlling, managing, and processing Census 2000 data.

### **MAJOR FEATURES**

The Census 2000 Data Processing System will be a complex network of operational controls and processing routines intended to store and service the decennial control and data requirements. It will include the necessary interactions with the Master Address File (MAF), Operations Control System (OCS) 2000, Data Capture System 2000 (DCS 2000), and Telephone Questionnaire Assistance (TQA), not only to control, accept, and store the data but also to provide the necessary computer processing to produce a one-number census.

The Census 2000 Data Processing System is divided into three operational phases of precensus, census, and post-census activities.

- Precensus activities will be those required for converting the MAF into the decennial control data base that remains linked to both TIGER®\* and the MAF. These activities will include form sampling (long or short), targeting identifications (for example, with foreign language questionnaires), and preparing the address files for printing on the questionnaires. Control information (both geographic and address related) will be provided to the OCS 2000 for guiding both field canvassing and address capture processing.
- Activities concurrent with census data collection/capture will be those necessary to coordinate the check in and storage from the multiple sources of collection (DCS 2000, Be Counted questionnaires, and telephone), to define the responding/nonresponding universes, and to provide enumeration controls and workload to the field. Included in these activities will be the loading and updating of the central data bases for the storage of all census responses provided through the enumeration and data capture processes.
- Post-census activities will be those necessary to prepare data from the original responses for release. These activities will include unduplicating multiple responses, editing and imputation, coding of write-in response data (such as race, language, industry and occupation, place of work/migration), estimation, tabulation recoding, and data disclosure avoidance.

\*TIGER® is a registered trademark of the U.S. Bureau of the Census.

In addition, detailed data files will be prepared from information collected on the short- and long-form questionnaires. These activities will include editing the responses, applying statistical techniques to account for missing data, and applying weights to sample records from the long form questionnaires. The files will be provided to DADS for data dissemination.

## **MILESTONES**

|                             |  |
|-----------------------------|--|
| July 1999                   | Receive the Census 2000 MAF  |
| September 1999              | Send initial address files to printing contractors   |
| April 2000                  | Define nonresponse followup universe and samples   |
| May-August 2000             | Code write-in response data  |
| August-September 2000       | Process 100-percent edits and imputations  |
| September 1999-January 2001 | Process 100-percent estimations, disclosure avoidance, and tabulation recoding                         |
| December 2000-January 2001  | Provide 100-percent estimated and edited files to DADS   |
| June-August 2001            | Prepare detailed data files from information collected on long-form questionnaires and provide to DADS |

## **XII.A. TABULATION AND DISSEMINATION PROGRAM**

### **OBJECTIVE**

The Tabulation and Dissemination Program for Census 2000 will be significantly different from those of previous censuses. By taking advantage of new technology, the Census Bureau will be able to meet customer demand for faster and more flexible access to census data.

### **MAJOR FEATURES**

Census 2000 data will be disseminated mainly using the Data and Access Dissemination System (DADS). Still in the developmental stages, DADS will provide an interactive electronic system that will allow data users to access prepackaged data products, data documentation, and on-line help, as well as build custom data products on-line and off-line. Figure XII-1 depicts the various products available through DADS.

Certain data products--such as those including summary, profile data--will be disseminated in traditional media as well as through DADS. The options and issues related to determining the types of data products and their medium of dissemination have been discussed with various segments of the data user community; these consultations will continue until the final decisions are made. The Census Bureau has solicited the advice and recommendations of data users throughout the planning, design, and testing stages of DADS.

DADS will be accessible to the widest possible array of users through the Internet, Intranet, and all available intermediaries, including the nearly 1,800 Data Centers and affiliates, the 1,400 Federal Depository libraries and other libraries, universities, private organizations, and so forth.

DADS is being designed with the capability to:

- Provide access to Census 2000 data such as the type of information shown in 1990 census Summary Tape Files (STFs) and Public-Use Microdata Samples (PUMS). Data users will have online viewing, downloading, and ordering capabilities.
- Create customized products, including various display formats such as tables, charts, graphs, and maps based on Census Bureau or user-defined geographic areas.
- Furnish metadata that provides documentation and explanatory information for data subjects and geographic areas.

## XII-2

- Provide users with an on-line help feature for using the system and accessing census data, as well as instructions on how to seek further assistance.

There are many issues concerning Census 2000 data dissemination that we must resolve in-house and with the data user community. We plan to work with data users during the next couple of years to answer two broad questions (as well as some more detailed issues) that will help finalize the overall design of the 2000 Tabulation and Dissemination Program. The questions are as follows:

1. Since data can be downloaded by data users from DADS onto other media (for example, CD-ROM, diskette, and paper), what proportion of Census Bureau resources should be used to generate CD-ROMs and printed reports? (Should any other media be considered?)
2. Since some segments of the data user community have less access to computers, how should their data needs be met and how can the Bureau work with partners and stakeholders to provide access for these data users?

Also, data users will be asked for recommendations on the types of data to be predefined in DADS and included in various data products. Our ongoing channels of communication will continue to inform them on the progress of DADS, such as through meetings and workshops with specific groups and organizations, and articles in census publications.

### **MILESTONES**

|                    |   |
|--------------------|---|
| September 30, 1996 | Released DADS Prototype 1, "proof of concept" for basic design, technology, and functionality of DADS   |
| October 31, 1997   | Released DADS Prototype 2, with expanded functions such as data product creation and on-line help   |
| January-April 1999 | DADS begins release of Dress Rehearsal product prototypes for Census 2000 (redistricting data first, other 100-percent and sample data to follow) |
| January 2001       | DADS begins release of Census 2000 redistricting data products  |
| March 31, 2001     | DADS completes release of redistricting data to states  |

April 1998

## **XII.B. P.L. 94-171 REDISTRICTING DATA PROGRAM**

### **OBJECTIVE**

To satisfy the requirements for Public Law (P.L.) 94-171, the Census Bureau established the Census 2000 Redistricting Data Program. This program offers the redistricting officials in each state the opportunity to provide the information used by the Census Bureau to create the geography for tabulating their redistricting data. By using the state-provided geographic information, the Census Bureau can furnish redistricting data and related geographic products that enable the states to complete Federal and state redistricting according to their specific state deadlines.

### **MAJOR FEATURES**

The Census 2000 Redistricting Data Program consists of:

**Phase 1, the Block Boundary Suggestion Project**, offers state redistricting officials the opportunity to identify visible features that they suggest be held as Census 2000 block boundaries. The Census Bureau will identify these boundaries in its TIGER®\* data base and, once agreed upon, hold them as block boundaries for tabulation of Census 2000.

**Phase 2, the Voting District Project**, is the phase where state redistricting officials may submit the boundaries and geographic codes of the voting districts (election precincts) and state legislative districts using whole census blocks. The Census Bureau will insert these boundaries into the TIGER data base.

**Phase 3, Release of Census 2000 Redistricting Data**, is the dissemination of Census 2000 data and accompanying geographic products to the governor and majority and minority legislative leaders responsible for redistricting in each state. States that provided voting districts will receive their data tabulated by voting district. States that provided state legislative districts will receive their data tabulated by state legislative district. The products, in paper and electronic form as appropriate, include:

- Data files for standard tabulation areas (for example, county, city, census tract), census block, and--when provided by the state--voting districts and state legislative districts: broken down by major race groups and Hispanic origin, for the total population and for persons 18 years and over

\*TIGER® is a registered trademark of the U.S. Bureau of the Census. For ease of presentation, the trademark symbols for TIGER and TIGER-related products are omitted from the text.

## XII-4

- TIGER/Line files (including voting districts and state legislative districts when provided by the state)
- County Block Maps (displaying voting districts when provided by the state)
- Voting District Outline Maps (displaying state legislative districts when provided by the state)
- Census Tract Outline Maps
- *Congressional District Atlas*, 108th Congress of the United States, in digital form and as a printed report, including a series of maps and tables from the TIGER data base for the districts of the 108th Congress resulting from the Census 2000 reapportionment
- Wall map of the United States by the Congressional Districts of the 108th Congress

The Census Bureau is required by P.L. 94-171 to deliver redistricting data/geographic products to the states within one year after Census Day. Individual states have their own timing requirements for the completion of state and Federal redistricting. Priority processing of census data and geographic products will be given to those states that must complete redistricting early.

### **MILESTONES**

|               |   |
|---------------|---|
| January 1999  | Complete Phase 1, Block Boundary Suggestion Project                                       |
| January 1999  | Begin Phase 2, Voting District Project  |
| March 31,2001 | Complete Phase 3, release of P.L. 94-171 redistricting data/geographic products to states |
| January 2003  | Release <i>Congressional District Atlas</i> , 108th Congress                              |

## **XII.C. GEOGRAPHIC PRODUCTS**

### **OBJECTIVE**

The requirements for Census 2000 are not just to collect, tabulate, and disseminate data, but to relate these data to geographic entities. Data for smaller geographic areas are necessary to meet the requirements of redistricting and numerous other Federal, state, and local programs. So that data users may understand and effectively use census data, the Census Bureau provides geographic products and appropriate tools to identify the names, boundaries, codes, and other attributes of the geographic entities.

### **MAJOR FEATURES**

The names, boundaries, and attributes of the geographic entities for which we tabulate data are identified through a variety of means, including internal Census Bureau operations and participant programs with state, local, and tribal governments and regional and metropolitan planning agencies. We also work with these participants to update the features--including their names and address ranges--shown in our geographic data base.

We incorporate the information relating to the geographic entities and features into the TIGER®\* data base. We prepare extracts from TIGER for use in conducting the census and in tabulating and disseminating census data. (Special geographic extracts from the TIGER data base will support DADS.)

The geographic products planned for Census 2000 are:

- Maps, in digital and hardcopy form. These will include detailed maps (such as the County Block Maps), outline maps (such as the Census Tract Outline Maps), and thematic maps (such as percent of population by county for a specific racial category). We also will generate supporting maps based on a specific data product.
- TIGER Extracts, in digital form (hardcopy may be available). These will include such products as the TIGER/Line files, cartographic boundary files and comparability files. We will generate appropriate supporting TIGER extracts based on specific data products and to support noncensus programs (for example, the TIGER/Census Tract Street Index for the Home Mortgage Disclosure Act).

\*TIGER® is a registered trademark of the U.S. Bureau of the Census. For ease of presentation, the trademark symbols for TIGER and TIGER-related products are omitted from the text.

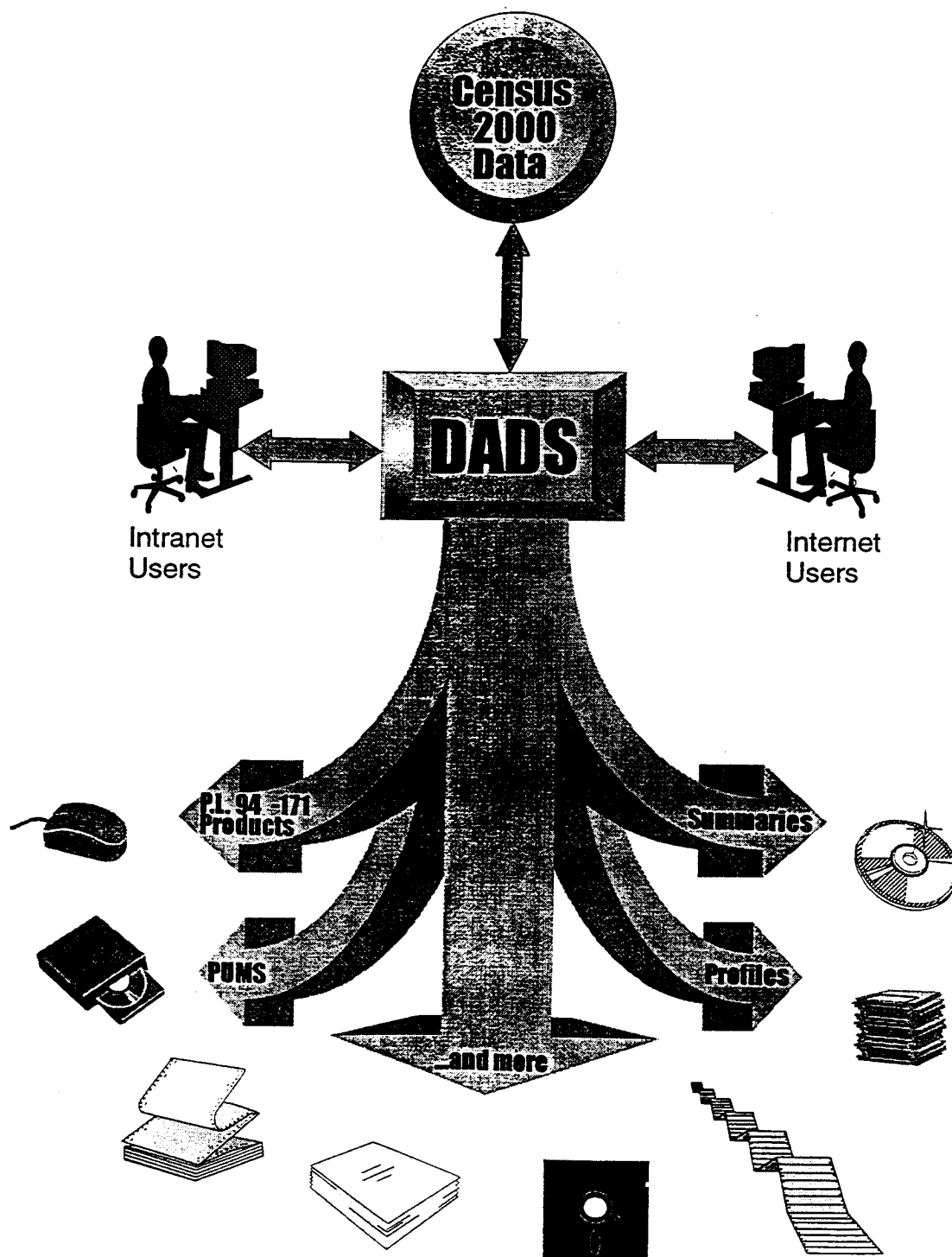
The geographic entities we report in data products vary. Some geographic entities—and related products—remain constant across data products. Other geographic entities are relevant at different times and in different products. For example:

- Voting districts are a very important geographic entity for P.L. 94-171 geographic products but are not included in the “regular” census products. We prepare special maps and geographic products showing these areas.
- While 100-percent data (from the questions asked of all persons) are available for census blocks, sample data (from the long form) are not. Similarly, some data files will not include certain geographic entities or geographic entities below a certain population (for example, places with populations of fewer than 10,000).
- Reapportionment from Census 2000 will be reflected in the redistricting for the 108th Congress. Initial data files for Census 2000 will contain the districts of the 106th Congress.

## **MILESTONES**

|                |   |
|----------------|---|
| March 31,2001  | Release products for Redistricting Data Program to states                             |
| April-May 2001 | Release Census 2000 TIGER/Line files  |
| June 2001      | Release county block maps, census tract outline maps, county subdivision outline maps |
| June 2003      | Complete release products for districts of 108th Congress                             |

# Figure XII-1. Data Access and Dissemination System (DADS)



April 1998

## **XIII.A. CENSUS 2000 TESTS AND RESEARCH**

### **OBJECTIVE**

The Census Bureau is engaged in an ambitious testing and research program designed to develop new approaches and techniques for possible implementation in Census 2000. The ultimate goal of this program is to boost participation in the census, thereby improving coverage and reducing costs.

### **MAJOR FEATURES**

- Even before the 1990 census data products were completely released, the Census Bureau initiated many tests and research projects (such as focus group and cognitive studies), spanning from 1992 through 1994. Earlier testing was needed to allow time to study fundamental reforms in census design. The following is a summary of these efforts:
  - The earliest tests and research focused on ways to increase the willingness and ability of respondents to respond by mail to the census by using: (1) questionnaire design and mailing package formats that were easier for respondents to understand and complete; and (2) notifications for alerting and reminding respondents to complete the forms.
  - Various testing and research studies were conducted concerning technologies to speed data collection and on ways to give people greater flexibility in how they respond to the census. Other research assessed current and emerging data capture technologies (for example, electronic imaging and optical mark recognition) that would offer the potential for processing cost reductions.
  - Research on automated address list maintenance focused on supporting the development of a continuously updated Master Address File linked to the TIGER data base.
  - Considerable testing and research were conducted to study administrative records including: examining respondent attitudes about using records held by other agencies, assessing public reaction to collecting social security numbers, investigating various state and local administrative records systems, creating a data base of sources of administrative records, and developing effective methods to use when importing, standardizing, and matching files.
- Then at mid-decade, the 1995 Census Test gave further testing to many procedures and features that had been shown to be successful in the earlier

tests and research, along with additional test objectives. This test evaluated 15

activities, among them a multiple mail strategy with respondent-friendly forms, new methodology to count persons with no usual residence, techniques of sampling for nonresponse, mail strategy of Spanish-language forms to targeted areas, and the collection of long-form (sample) data using various length forms (to see how response rates were affected by form length).

- Ongoing cost modeling research developed statistical models using data available from the various census tests being conducted. This research experimented with the prediction of many variables, such as census response, data collection workloads, and staff sizing of local census offices.
- The 1996 National Content Survey (formally known as the U.S. Census 2000 Test) was the principal vehicle for testing and evaluating subject content for Census 2000. It also provided information on questionnaire design and mailing strategy, and techniques to improve coverage.
- The 1996 Race and Ethnic Targeted Test (formally known as the 1996 Census Survey) was the principal vehicle for testing and evaluating several major alternatives for asking the race and ethnic questions. It studied how the proposed alternatives affected the distribution and quality of responses compared with the 1990 questions.
- The 1996 Community Census tested various features of the quality check (Integrated Coverage Measurement Program) on two American Indian reservations and in an urban site. Some of these features included techniques for measuring coverage in housing units and noninstitutional group quarters, use of administrative records for coverage improvement, and experimental questions designed to enhance address listing procedures.

### **XIII.B. CENSUS 2000 DRESS REHEARSAL**

#### **OBJECTIVE**

The purpose of the Census 2000 Dress Rehearsal is to prove-in all the various operations, procedures, and questions that are planned for Census 2000 under as near census-like conditions as possible.

#### **MAJOR FEATURES**

The Dress Rehearsal will provide for operational testing of Regional Census Center, Local Census Office, and Data Capture Center procedures and systems planned for use in Census 2000. We will employ the full array of methods, techniques, materials, work flows, equipment applications, and promotion and outreach programs intended for use in Census 2000. Attachment C provides more detail about the methods used in the Dress Rehearsal sites.

New procedures being considered for Census 2000--such as respondent-friendly forms readily available in many locations, multiple mail contacts with each household, digital capture of forms, and statistical estimation techniques--have all been tested individually in earlier operations. The Dress Rehearsal will provide a census-like environment to test simultaneously those procedures planned for use in Census 2000. The Dress Rehearsal also may include some procedures and systems that have not been tested operationally in any prior field or processing activity because they are needed to meet new requirements.

The Census Bureau plans to launch an unprecedented partnership effort for the Dress Rehearsal and Census 2000. For the Dress Rehearsal, the Bureau intends to work closely with state, local, and tribal governments, community organizations, and others to conduct a wide range of census activities. For example, the Bureau will ask local and tribal governments to review the Master Address File to ensure its completeness and accuracy. Other partnership efforts will include working closely with local and tribal governments in implementing the promotion and outreach program, and to facilitate the availability of census questionnaires. The Dress Rehearsal communities will work with the Bureau as exclusive partners in the final evaluation of planned Census 2000 operations.

From the Dress Rehearsal, we will produce prototype redistricting data products required by P.L. 94-171, and minimal standard printed and machine-readable 100-percent and sample data products.

## Sites

The Census Bureau has selected three sites for the Census 2000 Dress Rehearsal. The sites are the city of Sacramento, California; 11 counties in an area near and including the city of Columbia, South Carolina; and the Menominee American Indian Reservation, Wisconsin. The combination of a large urban site, a small city-suburban-rural site, and an American Indian Reservation site will provide a comprehensive testing environment for refining planned Census 2000 methodology. These three sites reflect characteristics that we believe will provide a good operational test of Census 2000 procedures and systems.

- Sacramento, California

This site consists of the city of Sacramento, which had a 1990 census resident population of 369,365 and 153,362 total housing units. The Census Bureau's official 1994 estimate showed an increase in the city's population to 373,964.

Sacramento contains great racial and ethnic diversity, including significant African American, Hispanic, and Asian and Pacific Islander populations. This diversity will allow us to test proposed Census 2000 methods designed to reduce the differential in the count and produce an accurate census for all components of the population. Sacramento is also a primary media market, which will allow us to implement a prototype of the Census 2000 advertising program. The site, representing the size of a typical urban local census office in Census 2000, will provide an understanding of the effectiveness of census operations and systems in this environment.

- Columbia, South Carolina

This site contains the city of Columbia in its entirety, including a small portion in Lexington County; the town of Irmo in its entirety, which is in Richland and Lexington Counties; and the following contiguous counties in north central South Carolina:

|              |           |          |
|--------------|-----------|----------|
| Chester      | Kershaw   | Newberry |
| Chesterfield | Lancaster | Richland |
| Darlington   | Lee       | Union    |
| Fairfield    | Marlboro  |          |

The 1990 census found that the counties comprising the Columbia site had a resident population of 650,035 and 251,874 total housing units. Our official 1996 estimates showed an increase for the 11 counties to 671,234 persons and 290,095 housing units.

The Columbia site exhibits the characteristics of a small city-suburban-rural area that contains living situations and socioeconomic characteristics that we do not find in a predominately urban environment. This site provides our only opportunity to test procedures for developing a Master Address File in an area containing both city style addresses (house number and street name) and non-city style addresses (rural route or box number). The site offers a mix of difficult and presumably easy-to-enumerate areas in a suburban and rural setting.

In the Columbia site, we will not use sampling and estimation techniques to produce the census counts. Instead, we will conduct a 100 percent followup of households that do not respond by mail or telephone. We also will conduct a post enumeration survey (PES) in the Columbia site to evaluate the accuracy of the results only. Attachment C provides more details about this alternative methodology.

- Menominee American Indian Reservation, Wisconsin

The Menominee American Indian Reservation is located in northeastern Wisconsin. Based on the 1990 census, the Menominee Reservation had a resident population of 3,397 and 1,176 total housing units. Menominee County had a 1990 resident population of 3,890 and 1,742 housing units. (The Menominee Reservation and Menominee County share the same exterior boundary, but pockets of interior land totaling over 2 square miles that are part of the county are excluded from the reservation. The Dress Rehearsal will include the entire county, however.) The Census Bureau's official 1996 estimates for Menominee County showed an increase to 4,609 persons and 1,899 housing units.

Conducting the Dress Rehearsal on an American Indian reservation allows the Census Bureau to test proposed Census 2000 methodologies for reducing the differential in the count among this component of the population. The Menominee Reservation has a high proportion of American Indians living on it and was recommended by the Census Advisory Committee on the American Indian and Alaska Native Populations.

## **MILESTONES**

|                |  |
|----------------|--|
| August 1997    | Address lists developed and updated                                |
| October 1997   | Address lists reviewed and corrected by local and tribal officials |
| December 1997  | Local census offices opened  |
| April 18, 1998 | Census Day   |
| July 1998      | Complete census data collection                                    |
| November 1998  | Complete quality check/PES data collection                         |
| November 1998  | Complete census and quality check/PES processing                   |
| December 1998  | Release site counts  |
| January 1999   | Release prototype P.L. 94-171 redistricting products               |
| March 31, 1999 | Complete Dress Rehearsal evaluations                               |

### **XIII.C. QUALITY ASSURANCE**

#### **OBJECTIVE**

To detect and correct performance errors that can significantly affect coverage and data quality.

#### **MAJOR FEATURES**

Census 2000 Quality Assurance (QA) activities will cover critical precensus, data collection, and data processing operations. QA plans will be developed for the following activities:

- Field geocoding
- Field address listing, validation, and/or map spotting
- Printing of public use forms
  
- Input materials
  - Map production
  - Assembly kits - materials used by enumerators in the field
  
- People-assisted data collection operations
  - Personal field interviewing
  - Computer Assisted Personal Interviewing
  - Computer Assisted Telephone Interviewing
  
- Data Capture modes
  - Intelligent character recognition
  - Optical mark recognition
  - Keying from paper
  - Keying from imaging
  - Scanning
  - Digitizing
  
- Clerical or automated matching and coding

Each of these operations is designed and implemented to meet decennial objectives. The QA is tailored not only to eliminate significant nonsampling errors, but also to be integrated efficiently into the operation work flow.

**MILESTONES**

|                           |   |
|---------------------------|---|
| January 1998-January 1999 | QA on geographic support activities (geocoding, digitizing, and map production) |
| August 1998-July 1999     | QA on address listing and validation  |
| July 1999                 | QA on printing public use forms   |
| April 2000                | QA on people-assisted data collection   |
| April 2000                | QA on data capture operation  |

### XIII.D. CENSUS 2000 EVALUATION PROGRAM

#### OBJECTIVES

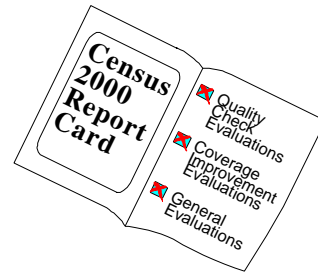
To obtain information about the quality of Census 2000 data and to provide information for future census planning.

#### MAJOR FEATURES

Evaluations of key components of Census 2000 will be planned before and implemented during the Census 2000 process. Evaluation results will be released in the form of a Report Card on Census 2000. The Census Bureau intends to release certain components of the Report Card by December 31, 2000.

The components of Census 2000 to be evaluated will fall into three broad categories:

- Quality check evaluations
- Coverage improvement evaluations
- General evaluations



#### MILESTONES

|                            |  |
|----------------------------|--|
| January 1998               | Define components of Census 2000 Dress Rehearsal Report Card.  |
| January 1999               | Release Census 2000 Dress Rehearsal Report Card  |
| April 1999                 | Finalize plan for Census 2000 Report Card. This plan will reflect what we learned from the Census 2000 Dress Rehearsal Report Card as well as from our many internal/external consultations. |
| October 1999-December 2000 | Implement evaluation studies.  |
| January 2001               | Issue Census 2000 Report Card with or shortly after release of the Census 2000 counts by December 31, 2000.  |
| Beyond January 2001        | Some evaluation studies may be prepared and issued.  |

### **XIII.E. RESEARCH AND EXPERIMENTATION PROGRAM**

#### **OBJECTIVE**

To conduct a program of research and experimentation during the Census 2000 cycle that will provide information for planning the 2010 census.

#### **MAJOR FEATURES**

As part of each decennial census since 1950, the Census Bureau has incorporated a research program to gather data needed to facilitate planning for the next census. For Census 2000, the Census Bureau will conduct experiments and research on different aspects of decennial census activities to assess alternative methods that may be considered in planning the 2010 census. These research activities will be coordinated and managed in a comprehensive research program.

The process for managing this program will involve the following:

- Develop criteria for selection of research
- Solicit ideas for research
- Review proposals and select research based on pre-identified criteria and resources
- Ensure that implementation of research is coordinated with all participating Census Bureau divisions
- Monitor budget and schedules for research
- Review results and coordinate the documentation of results into a Census 2000 results memorandum series

#### **MILESTONES**

|                            |   |
|----------------------------|---|
| September 1997             | Defined selection criteria for research and experimentation program |
| November 1997              | Solicited ideas for research and experimentation                    |
| March 1998                 | Identify experiments to be included                                 |
| October 1998-December 2000 | Implement experiments   |
| January 2001-December 2003 | Document results of research and experiments                        |

April 1998

## **XIII.F. ADMINISTRATIVE RECORDS**

### **OBJECTIVE**

To explore the feasibility of using administrative records in decennial censuses.

### **MAJOR FEATURES**

The Census Bureau is evaluating the feasibility of using administrative records to supplement or improve traditional data collection methods. The Census Bureau plans to include an experiment in Census 2000 in parallel with standard methods to provide a basis for analysis and future decision making with regard to an expanded use of administrative records in the 2010 census. To support this experimentation, the Census Bureau will develop an administrative records system using selected federal records.

Developing an administrative records system for experimentation in Census 2000 involves the following:

- Identify and acquire administrative record files from selected national programs that contribute to coverage and to demographic characteristics
- Develop methods to evaluate the quality of the administrative record system and the component files
- Develop methods for generating national level administrative record files
- Conduct experiments in Census 2000 to support planning for the 2010 census

An administrative records research agenda has been established to identify relevant issues and the corresponding research projects that are required. In addition, the Census Bureau is conducting privacy research to gauge public acceptance of administrative records use.

### **MILESTONES**

|                   |   |
|-------------------|---|
| April 1997        | Conducted privacy group meetings on use of administrative records |
| March 16, 1998    | Evaluate 1996 Community Census use of administrative records      |
| September 1, 1998 | Generate 1998 administrative record files                         |
| January 31, 1999  | Evaluate 1998 administrative record files                         |
| March 25, 2000    | Generate an administrative records national file                  |
| April 1, 2000     | Generate administrative record site files (AREX 2000)             |
| April 1, 2000     | Begin implementation activities for Census 2000 experiments       |

### **XIII.G. 2010 CENSUS PLANNING**

#### **OBJECTIVE**

To carry out a long-range planning and design effort for the 2010 census.

#### **MAJOR FEATURES**

Demographic and social changes in the United States will make the year 2010 differ from 2000 even more than 2000 differed from 1990. For example, many of the baby boomers will be out of the work force, the continuing telecommunications revolution will have rounded the corner with a generation of children brought up with computers, several minority groups will have grown considerably as a proportion of the total population, and the World War II generation that relied on social security and medicare will be replaced by those who know they cannot rely entirely on such entitlements. The demographic changes and probable reduction of Federally-run programs will influence the data requirements and the manner in which the census can be taken in 2010. Therefore, as belts continue to tighten, and society and technology continue to change, early planning for the 2010 census may be even more important than it was for Census 2000.

The cornerstone of the 2010 planning effort is the identification of a range of possible designs for the next decade. This range provides the basis for determining the necessary experiments to conduct in Census 2000 (see section "Research and Experimentation Program"), which will provide data necessary for the full analysis of alternatives. Also crucial to the effort is the development of performance measures, such as cost, total quality, managerial feasibility, and total benefits, which will allow the quantitative comparison of design alternatives.

Along with the determination of possible designs, experiments to study them, and measures to assess them, the 2010 program must include examinations of policy and legislative issues associated with each design, and the implications of census designs on public concerns about privacy and confidentiality.

Finally, because of the long lead time necessary to implement major technological changes, and the powerful impacts of technology on the feasibility of key census activities, an ongoing program of technological research is a necessary adjunct to other 2010 program activities.

Early planning for the 2010 census includes the following features:

- Identification of a continuum of potential designs to guide research efforts

- Implementation of key research contracts to inform tests for Census 2000
- Identification of key experiments, evaluations, and research for implementation in Census 2000
- Participation of staff actively involved in Census 2000 for full integration of concepts
- Early input from stakeholders

## **MILESTONES**

|                |   |
|----------------|---|
| October 1997   | Identified continuum of potential designs for 2010                    |
| January 1998   | Proposed experiments and research for implementation in Census 2000   |
| October 1998   | Begin external advisory process for 2010 census                       |
| October 1998   | Begin implementation activities for Census 2000 experiments           |
| September 2000 | Begin documenting empirical evidence for proposed 2010 census designs |
| September 2001 | Define post-Census 2000 experiments and research for 2010 census      |

## XIV. PUERTO RICO

### OBJECTIVES

Census 2000 operations in Puerto Rico will be comparable in scope to stateside activities. The Census Bureau is working in partnership with the government of Puerto Rico--as represented by the Puerto Rico Planning Board (PRPB)--on the program objectives to ensure that Census 2000 meets the legal requirements set forth in Title 13, U.S. Code, as well as the specific data needs of Puerto Rico.

### MAJOR FEATURES

Census 2000 operations in Puerto Rico will be built around the same four fundamental strategies to be used stateside:

**! Strategy One: *Build Partnerships at Every Stage of the Process***

- The Census Bureau will develop and sign a Memorandum of Agreement with the government of Puerto Rico that will outline the mutual roles and responsibilities of each party in the conduct of Census 2000 on the Island.
- In consultation with the PRPB and its local Interagency Committee, census questionnaire content will be developed that meets the legislative and program needs of Puerto Rico.
- An advertising and promotion campaign designed to build awareness of the census and boost participation will be developed for Puerto Rico that will take into account its specific needs.
- The Census Bureau will conduct an address listing operation in Puerto Rico in 1998. This will allow for the full implementation of the Local Update of Census Addresses (LUCA) program (see page VI-5) and will serve as the basis for use of the update/leave method of data collection on the Island. During the update/leave operation, field enumerators update the address list and map and leave a census questionnaire at each housing unit for the residents to complete and mail back.

**! Strategy Two: *Keep it Simple***

- Using the findings from our census testing and research, the Census Bureau will design user-friendly questionnaires that are simpler and easier for respondents to understand and complete. Forms will be available in both Spanish and English.

- Census questionnaires and other forms will be made more readily available to respondents and will be placed at Walk-In Questionnaire Assistance Centers and other convenient places where people frequent.

**! Strategy Three: *Use Technology Intelligently***

- Using the update/leave methodology for data collection for the first time in Puerto Rico will give respondents the opportunity to complete the census questionnaires themselves and return them by mail. This will allow the Census Bureau to make use of the same technological advances that will be used stateside.
- The Census Bureau will make greater use of the telephone as a data collection tool, in addition to its use in providing assistance to respondents with questions about Census 2000.
- Data users will have access to Census 2000 data and products through the Internet, using the Data Access and Dissemination System (DADS) (see page XII-1). DADS will give users the flexibility to extract and tabulate census data quickly to meet their specific data needs.

**! Strategy Four: *Use Statistical Methods***

- The Census Bureau will use personal visits as well as the telephone to obtain response from households that do not return a census questionnaire.
- On a daily basis, the Census Bureau will determine the response rate for every census tract, which is a neighborhood or area that has an average of about 4,000 people. The response rate is defined as:

$$\frac{\text{Mail + Telephone + Other Responses}}{\text{Questionnaires Mailed or Delivered}} \times 100\%$$

- For any census tract in which this rate is less than 100 percent after the initial response period, enumerators will perform nonresponse followup (NRFU) (that is, contact the respondent and complete a census questionnaire).
- The Census Bureau will select a sample of nonresponding addresses in each census tract at the end of the initial response period. The sample will vary from census tract to census tract based upon the tract's response level and will be designed to achieve at least a 90-percent total response rate in each tract.

- Enumerators will perform NRFU for each of the selected sample addresses. The addresses will be visited by an enumerator who will complete a questionnaire by personal interview.
- A quality check (Integrated Coverage Measurement) survey will be conducted shortly after the regular enumeration to determine if people and housing units were missed or counted more than once. This survey is designed to eliminate the undercount experienced in the 1990 census and will result in a “one-number” census that accurately reflects the population of Puerto Rico.

## **MILESTONES**

|                |  |
|----------------|--|
| April 1997     | Finalized Census 2000 plan for Puerto Rico             |
| October 1997   | Completed Phase 1 of Block Boundary Definition Program |
| February 1998  | Finalize Memorandum of Agreement                       |
| August 1998    | Begin address listing activities                       |
| December 1998  | Complete questionnaire content determination process   |
| April 1999     | Conduct LUCA program                                   |
| April 2001     | Release total counts for Puerto Rico                   |
| March 31, 2001 | Deliver P.L. 94-171 redistricting counts               |

## **XV. ISLAND AREAS**

### **American Samoa, Commonwealth of the Northern Mariana Islands, Guam, and U.S. Virgin Islands**

#### **OBJECTIVES**

Census 2000 operations in American Samoa, the Commonwealth of the Northern Mariana Islands, Guam, and the U.S. Virgin Islands (collectively referred to as the Island Areas) will be conducted by the Census Bureau in partnership with the governments of each Island Area. These partnerships will work on the program objectives to ensure that Census 2000 meets the legal requirements set forth in Title 13, U.S. Code, as well as the specific data needs of each Island Area.

#### **MAJOR FEATURES**

Census 2000 operations in the Island Areas will be built around three of the four fundamental strategies to be used stateside (no sampling operations will be conducted in these Areas):

**! Strategy One: *Build Partnerships at Every Stage of the Process***

- The Census Bureau will develop and sign a Memorandum of Agreement with the Governor of each Island Area that will outline the mutual roles and responsibilities of each party in the conduct of Census 2000 for each Island Area.
- In consultation with the local Interagency Committee established by each Island Area, the Census Bureau will develop the census questionnaire content that meets the legislative and programmatic needs of each Area.
- An advertising and promotion campaign designed to build awareness of the census and boost participation will be developed for each Island Area that will take into account its specific needs.
- The Census Bureau will conduct the data collection of the Island Areas using the list/enumerate method. This decision was based on recommendations from Island Area representatives and an analysis of the various data collection methodologies. During the list/enumerate operation, field enumerators list the housing units and show their spatial location on a map and enumerate the residents in one visit.

**! Strategy Two: *Keep it Simple***

- Using the findings from our census testing and research, the Census Bureau will design respondent-friendly questionnaires and forms that are simpler and easier for the enumerators to administer and for the respondents to understand and answer. Forms will be available in English and in other languages widely spoken in the Island Areas.
- Census questionnaires and forms will be made more readily available to respondents and will be placed in convenient places.

**! Strategy Three: *Use Technology Intelligently***

- The Census Bureau will make greater use of the telephone as a data collection tool, in addition to its use in providing assistance to respondents with questions about Census 2000.
- Data users will have access to Census 2000 data and products using the Data Access and Dissemination System (DADS)(See page XII-1). DADS will give users the flexibility to extract and tabulate census data quickly to meet their specific data needs.

**MILESTONES**

|                |   |
|----------------|---|
| February 1998  | Finalize Census 2000 plan for each Island Area        |
| March 1998     | Complete questionnaire content determination process  |
| August 1999    | Finalize Memorandum of Agreement for each Island Area |
| March 31, 2001 | Release total counts for each Island Area             |

## APPENDIX A. GLOSSARY OF ABBREVIATIONS AND ACRONYMS

|               |   |
|---------------|---|
| <b>ACF</b>    | (Address Control File) The residential address list used in the 1990 census to label questionnaires, control the mail response check-in operation, and determine the nonresponse followup workload.   |
| <b>AIANA</b>  | (American Indian and Alaska Native Area) A Census Bureau term referring to these entity types: American Indian reservation, American Indian trust land, state designated American Indian statistical area, tribal jurisdictional statistical area, tribal designated statistical area, tribal subdivision, Alaska Native Regional Corporation, Alaska Native village, and Alaska Native village statistical area. |
| <b>ATM</b>    | (Asynchronous Transfer Mode) A process that increases the amount of information that can be electronically transferred at one time between sites.   |
| <b>CAPI</b>   | (Computer Assisted Personal Interviewing) A method of data collection using a laptop computer in which the questions to be asked are displayed on the computer screen and responses are entered directly into the computer.   |
| <b>CATI</b>   | (Computer Assisted Telephone Interviewing) A method of data collection using telephone interviews in which the questions to be asked are displayed on a computer screen and responses are entered directly into the computer.   |
| <b>CCD</b>    | (Census County Division) A subdivision of a county that is a relatively permanent statistical area established cooperatively by the Census Bureau and local government authorities. Used for presenting decennial census statistics in those States that do not have well-defined and stable minor civil divisions that serve as local governments.   |
| <b>CD-ROM</b> | (Compact Disk - Read Only Memory) An optical disk that is created by a mastering process and used for storing large amounts of data. Unlike standard computer disks and diskettes, CD-ROMs can be used only to read stored data, not to update or change its content.   |

- CFO** (Census Field Office) One of approximately 402 temporary Census Bureau offices to be established in Census 2000 to manage address listing field work and conduct local recruiting.
- CV** (Coefficient of Variation) The ratio of the standard error (square root of the variance) to the value being estimated, usually expressed in terms of a percentage (also known as the relative standard deviation). The lower the CV, the higher the relative reliability of the estimate.
- DA** (Demographic Analysis) An independent, macro-level approach to validate the quality check estimates and the "one-number" census results in Census 2000. Estimates using demographic analysis are derived by comparing aggregate sets of data or counts. Records used for demographic analysis include birth and death records, immigration statistics, and Medicare data.
- DADS** (Data Access and Dissemination System) A generalized electronic system for all access and dissemination of Census Bureau data. This interactive electronic system will be designed to allow efficient and cost-effective access to data generated by the various areas of the Census Bureau. The DADS system will serve as the vehicle for accessing and disseminating data from Census 2000 and from the American Community Survey.
- DANC** (Decennial Applicant Name Check) This automated system will be used to screen all applicants' backgrounds for criminal histories to facilitate the selection, hiring, promotion, and payrolling of qualified and suitable applicants for the conduct of Census 2000.
- DCC** (Data Capture Center) One of four decentralized Census Bureau facilities (one permanent, three temporary) that will check in Census 2000 questionnaires returned by mail, create images of all questionnaire pages, and convert data to computer readable format using OMR, ICR, and data keying technologies. The DCCs also will perform other computer processing activities, including automated questionnaire edits, work flow management, and data storage. Called "processing office" (PO) in previous censuses.

- DCS 2000** (Data Capture System 2000) The data capture system that will be used to capture information from census forms. This system will incorporate the following activities: processing more than 120 million incoming forms; digitally capturing and processing billions of bits of information on the forms; converting automatically the image of the form to text-based data; and editing/repairing data that the system is unable to decipher automatically.
- DFI** (Decennial Field Interface) The collection of systems that will be used in census field offices to control and manage the census data collection effort. It includes, among others, the operations control, payroll and personnel, map production, and management information systems.
- DSF** (Delivery Sequence File) A computerized file containing all delivery point addresses serviced by the USPS. The USPS updates the DSF continuously as its letter carriers identify addresses for new delivery points or changes in the status of existing addresses.
- GQ** (Group Quarters) A place where people live that is not the typical household-type living arrangement. The Census Bureau classifies all persons not living in households as living in group quarters. There are two types of group quarters: institutional (for example, correctional facilities, nursing homes, and mental hospitals) and noninstitutional (for example, college dormitories, military bases and ships, hotels, motels, rooming houses, group homes, missions, shelters, and flophouses).
- HH** (Hawaiian Homelands) Areas created as a result of the Hawaiian Homes Commission Act of 1920 to provide agricultural, pastoral and residential land for native Hawaiians.
- HU** (Housing Unit) A house, an apartment, a mobile home, a group of rooms, or a single room that has its own kitchen facilities, a separate entrance, and is occupied as a separate living quarters or, if vacant, intended for occupancy as a separate living quarters.

|             |   |
|-------------|---|
| <b>ICM</b>  | (Integrated Coverage Measurement) A coverage measurement methodology, also known as the Quality Check Survey, that will be used to determine the number of people and housing units missed or counted more than once in Census 2000. This information is combined with the enumeration results before producing a single set of official census results (the one-number census estimates).  |
| <b>ICR</b>  | (Intelligent Character Recognition) Technology that uses an optical scanner and computer software to "read" human handwriting. Sometimes referred to as "optical character recognition" (OCR).  |
| <b>LCO</b>  | (Local Census Office) One of approximately 520 temporary Census Bureau offices to be established for Census 2000 data collection purposes. Called "district office" (DO) in previous censuses.  |
| <b>L/E</b>  | (List/enumerate) A method of data collection in which enumerators list each residential address and enumerate the household in one visit.   |
| <b>LHFU</b> | (Large Household Follow-up) A census operation that follows up on households that indicated on their census form that there are six or more persons in that housing unit.   |
| <b>LUCA</b> | (Local Update of Census Addresses) A Census 2000 program, established in response to requirements of P.L. 103-430, that provides an opportunity for local and tribal governments to review and update individual address information in the MAF and associated geographic information in the TIGER data base to improve the completeness and accuracy of both computer files.   |
| <b>MAF</b>  | (Master Address File) A computer file based on a combination of the addresses in the 1990 ACF and current versions of the DSF, supplemented by address information provided by state, local, and tribal governments. The MAF is being updated throughout the decade to provide a basis for producing address labels needed to deliver Census 2000 questionnaires, keep track of which forms have been returned and which need followup, serve as the sampling frame for the Census Bureau's periodic demographic surveys, and support other Census Bureau statistical programs. |

|                        |   |
|------------------------|---|
| <b>MCD</b>             | (Minor Civil Division) A primary government and/or administrative subdivision of a county, such as a township, precinct, or magisterial district.   |
| <b>MO/MB</b>           | (Mailout/mailback) A method of data collection in which the USPS delivers addressed questionnaires to residents who are asked to complete and mail back the questionnaire to the appropriate Census Bureau office.  |
| <b>NRFU</b>            | (Nonresponse Followup) A census followup operation in which temporary field staff, known as enumerators, visit addresses from which no questionnaire was returned by mail, from which a telephone response was not received, or for which no administrative records could be located.   |
| <b>OCR</b>             | (Optical Character Recognition) Machine identification of printed characters through the use of light sensing devices.  |
| <b>OMR</b>             | (Optical Mark Recognition) Technology that uses an optical scanner and computer software to scan a page, recognize the presence of marks in predesignated areas, and assign a value to the mark depending on its specific location on a page.   |
| <b>PAMS/</b>           | (Preappointment Management System/Automated Decennial <b>ADAMS</b> Administrative Management System) An integrated structure of administrative management programs that supports applicant tracking and processing, background checks, selection records, recruiting reports, personnel and payroll processing, and archiving of historical data.   |
| <b>P.L.<br/>94-171</b> | (Public Law 94-171) The public law that requires the Census Bureau to provide selected decennial census data tabulations to the states by April 1 of the year following the census enumeration. These tabulations are used by the states to redefine the areas included in each Congressional district and in other districts used for state and local elections, a process called redistricting. |

|                         |  |
|-------------------------|--|
| <b>P.L.<br/>103-430</b> | (Public Law 103-430) The public law that amends Title 13, United States Code, to allow designated local and tribal officials access to the address information in the MAF to verify its accuracy and completeness. This law also requires the USPS to provide address information it compiles to the Census Bureau to improve the MAF.   |
| <b>PUMS</b>             | (Public Use Microdata Sample) Computerized files containing a small sample of individual long-form census records showing the population and housing characteristics of the people included on those forms.  |
| <b>QA</b>               | (Quality Assurance) A systematic approach to build quality into a process.   |
| <b>QC</b>               | (Quality Check) A coverage measurement methodology (also called the Integrated Coverage Measurement Survey) that will be used to determine the number of people and housing units missed or counted more than once in Census 2000. This information is combined with the enumeration results before producing a single set of official census results (the one-number census estimates). |
| <b>RCC</b>              | (Regional Census Center) One of 12 temporary Census Bureau offices established to manage LCO activities and to conduct geographic programs and support operations such as automated map production. The Census Bureau also will open an "Area Office" to manage census operations in Puerto Rico.  |
| <b>RO</b>               | (Regional Office) One of 12 permanent Census Bureau offices established in 12 cities throughout the country to implement outreach and promotion activities during the census period and to conduct survey enumeration and other decentralized work of the Census Bureau.   |
| <b>SBE</b>              | (Service-based Enumeration) An operation designed to enumerate people at places where they might receive services, such as shelters, soup kitchens, and other selected locations. This operation targets the types of services that primarily serve people who have no usual residence.  |

- SP** (Special Place) A residence where people live or stay other than the usual house, apartment, or mobile home. Examples are colleges and universities, boarding and rooming houses, marinas, nursing homes, hospitals, and prisons.
- STF** (Summary Tape File) A series of census summary tabulations of complete count and sample population and housing data available for public use on computer tape and CD-ROM.
- TIGER®\*** (Topologically Integrated Geographic Encoding and Referencing) A computer data base that contains a digital representation of all census-required map features (streets, roads, rivers, railroads, lakes, and so forth), the related attributes for each, and the geographic identification codes for all entities used by the Census Bureau to tabulate data for the United States, Puerto Rico, and Island Areas. The TIGER data base records the interrelationships among these features, attributes, and geographic codes and provides a resource for the production of maps, entity headers for tabulations, and automated assignment of addresses to a geographic location in a process known as "geocoding."
- T-NIGHT** (Transient Night) An enumeration procedure conducted to enumerate people occupying campgrounds at racetracks, recreational vehicle (RV) campgrounds or RV parks, commercial or public campgrounds, fairs and carnivals, and marinas.
- TQA** (Telephone Questionnaire Assistance) A toll-free service that will be provided by a commercial phone center to answer questions about Census 2000 or the census questionnaire.
- U/L** (Update/leave) A method of data collection in which enumerators personally deliver a census questionnaire to a household to be completed and returned by mail and at the same time update the address list.
- USPS** (United States Postal Service) The organization responsible for delivering the mail questionnaires in Census 2000, and the producer of the DSF.

**WAN** (Wide Area Network) A group of computers linked within a network, such as the Census Bureau's regional offices, to exchange and share information. Whereas a "local area network" may link computers within a building or among several buildings, a WAN covers more area and distance.

\*TIGER® is a registered trademark of the U.S. Bureau of the Census. For ease of presentation, the trademark symbols for TIGER and TIGER-related products are omitted from the text.

## **APPENDIX B. KEY CENSUS BUREAU TELEPHONE CONTACTS**

### **Headquarters**

| <b><u>Program Area</u></b>                  | <b><u>Contact Person</u></b> | <b><u>Telephone Number</u></b> |
|---|------------------------------|--------------------------------|
| Marketing                                   | Solomona Aoelua              | 301-457-2988                   |
| Partnerships                                | Brenda August                | 301-457-1646                   |
| Content Determination                       | Louisa Miller                | 301-457-2073                   |
| Forms, Printing and Mailing                 | James Marsden                | 301-457-4010                   |
| Address List Development                    | Linda Franz                  | 301-457-1014                   |
| Geographic Services                         | Robert LaMacchia             | 301-457-1022                   |
| Office Infrastructure                       | Mark Taylor                  | 301-457-1827                   |
| Automated Collection                        | Howard Prouse                | 301-457-1933                   |
| Personal Visit                              | Charles Moore                | 301-457-2051                   |
| Special Populations                         | Annetta Clark-Smith          | 301-457-2378                   |
| Telephone Questionnaire Assistance/Internet | Barbara LoPresti             | 301-457-2839                   |
| Data Capture                                | Alan Berlinger               | 301-457-1737                   |
| Data Processing                             | Maureen Lynch                | 301-457-4092                   |
| Statistical Design                          | Howard Hogan                 | 301-457-4242                   |
| Quality Check Operations                    | David Whitford               | 301-457-4035                   |
| Dissemination and Products                  | Jane Ingold                  | 301-457-4646                   |
| Evaluation                                  | Florence Abramson            | 301-457-4222                   |
| Research/Experimentation                    | Deborah Bolton               | 301-457-3944                   |
| 2010 Census Planning                        | Jay Keller                   | 301-457-4040                   |
| Puerto Rico/Island Areas                    | Lourdes Flaim                | 301-457-4041                   |

### **General**

|                             |  |
|-----------------------------|--|
| Customer Services .....     | 301-457-4100   |
| Census Locator .....        | 301-457-1713   |
| Census Bureau Website ..... | <a href="http://www.census.gov/">www.census.gov/</a> |

**Census Bureau Regional Offices****(Information Services, Data Product Information)**

|  |                                |
|--|--------------------------------|
| <i>Atlanta, GA</i>                             | <i>404-730-3833/3964 (TDD)</i> |
| <i>Boston, MA</i>                              | <i>617-424-0510/0565 (TDD)</i> |
| <i>Charlotte, NC</i>                           | <i>704-344-6144/6548 (TDD)</i> |
| <i>Chicago, IL</i>                             | <i>708-562-1740/1791 (TDD)</i> |
| <i>Dallas, TX</i>                              | <i>214-640-4470/4434 (TDD)</i> |
| <i>Denver, CO</i>                              | <i>303-969-7750/6769 (TDD)</i> |
| <i>Detroit, MI</i>                             | <i>313-259-1875/5169 (TDD)</i> |
| <i>Kansas City, KS</i>                         | <i>913-551-6711/5839 (TDD)</i> |
| <i>Los Angeles, CA</i>                         | <i>818-904-6339/6249 (TDD)</i> |
| <i>New York, NY</i>                            | <i>212-264-4730/3863 (TDD)</i> |
| <i>Philadelphia, PA</i>                        | <i>215-597-8313/8864 (TDD)</i> |
| <i>Seattle, WA</i>                             | <i>206-728-5314/5321 (TDD)</i> |
| <i>Regional Office Liaison at Headquarters</i> | <i>301-457-2032</i>            |

**APPENDIX C. ADDITIONAL INFORMATION CONCERNING  
THE CENSUS 2000 DRESS REHEARSAL**

1. Contrasts Between the Three Dress Rehearsal Sites
2. Census 2000 Decision Memorandum No. 36, "Key Features of the Census 2000 Dress Rehearsal with Aspects of a Nonsampling Methodology in the South Carolina Site."

# CONTRASTS BETWEEN THE THREE DRESS REHEARSAL SITES CENSUS 2000

## MENOMINEE

## SOUTH CAROLINA

## SACRAMENTO

Housing Units: 2,039<sub>1</sub>

Housing Units: 280,082<sub>1</sub>

Housing Units: 171,673<sub>1</sub>

Area: 358 Sq. Mi.<sub>2</sub>

Area: 6,702.6 Sq. Mi.<sub>3</sub>

Area: 96.3 Sq. Mi.<sub>4</sub>

Update/Leave/Mailback only.  
No mailout of forms.

Both Mail/Mailback and Update/  
Leave/Mailback

Mailout/Mailback only

Non-city-style addresses only

Both city-style and non-city  
style addresses

City-style addresses only

Tribal government  
communications

City, county, and state  
communications (11 counties)

City and state communications

1990 employee turnover rate:  
269%

1990 employee turnover rate:  
209%

1990 employee turnover rate:  
Less than 75%

English language only

Spanish language forms for  
migrant workers in addition to  
English forms, Spanish  
language forms available for  
Update/Leave/Mailback areas

Targeted mailout of Spanish  
and Chinese language forms in  
addition to English language  
forms to selected Census  
blocks. Be Counted forms in  
English, Spanish, Cantonese,  
Mien, Vietnamese, and Russian.

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1 This Housing Unit figure for each site is based on the number of residential addresses contained in the Dress Rehearsal Address List, which was compiled in partnership with the U.S. Postal Service and the local and tribal governments in the three sites. This figure reflects the number of Housing Units in the Dress Rehearsal address list as of 11/26/97.

2 1990 Land area in square miles Source: 1994 County and City Data Book.

3 1990 Land area in square miles Source: 1994 County and City Data Book, 1990 Geographic Identification Code Scheme.

4 1990 Land area in square miles Source: 1994 County and City Data Book.

**MENOMINEE**

Be Counted operation ends when the NRFU universe is identified.

Visits to 100% of nonresponding addresses to be completed in 6 weeks (Census 2000 plan calls for 100% Nonresponse Followup visits on American Indian reservations)(No U.S. Postal Service delivery, therefore, no "undeliverable" addresses).

Chicago Regional Office has assigned a Regional Technician to provide on-site operational and partnership support.<sup>1</sup>

Quality Check (ICM) results incorporated into finCantonese totals

**SOUTH CAROLINA**

Be Counted operation extends 2 additional weeks beyond the identification of the NRFU universe.

Visits to 100% of nonresponding addresses to be completed in 8 weeks. Also, visits to 100% of addresses identified by the U.S. Postal Service as undeliverable.

2 partnership specialists (Covering government, media, community)

Quality Check (PES) results not incorporated into final site totals; used only for evaluation purposes

100% telephone follow-up of all mail returns with household size discrepancies

Additional quality assurance for NRFU and Update/Leave operations

Extra money for paid advertising

**SACRAMENTO**

Be Counted operation ends when the NRFU universe is identified.

Visits to sample of nonresponding addresses (to reach at least 90% in each Census tract) to be completed in 6 weeks. Sample of all addresses identified as "vacant" undeliverable by the U.S. Postal Service.

1 partnership specialist (Covering government, media, community)

Quality Check (ICM) results incorporated into final site totals

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1 The Regional Technician assigned by the Chicago Regional Office is an American Indian Census Bureau employee working with the assistance of the Regional Government Partnership Specialist to establish partnerships with tribal government officials.

**MENOMINEE**

**SOUTH CAROLINA**

**SACRAMENTO**

1990 Population: 3,890<sub>1</sub>

1990 Population: 650,035<sub>2</sub>

1990 Population: 369,365<sub>3</sub>

Race/Hispanic Origin  
(Percent of total  
population)

Race/Hispanic Origin  
(Percent of total  
population)

Race/Hispanic Origin  
(Percent of total  
population)

American Indian, Eskimo or  
Aleut 89.2%

American Indian, Eskimo or  
Aleut 0.3%

American Indian, Eskimo or  
Aleut 1.2%

Asian/Pacific Islander 0%

Asian/Pacific Islander 0.7%

Asian, Pacific Islander  
15.0%

Black 0%

Black 39.3%

Black 15.3%

White 10.7%

White 59.4%

White 60.1%

Other 0.1%

Other 0.3%

Other 8.4%

Hispanic Origin (of any  
race) 1.4%

Hispanic Origin (of any  
race) 0.9%

Hispanic Origin (of any  
race) 16.2%

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1 Source: 1990 CPH-1-51, 1990 Census of Population and Housing, Summary of Population and Housing Characteristics - Wisconsin

2 Source: 1990 CPH-1-42, 1990 Census of Population and Housing, Summary of Population and Housing Characteristics - South Carolina

3 Source: 1990 CPH-1-6, 1990 Census of Population and Housing, Summary of Population and Housing Characteristics - California



JAN 16 1998

CENSUS 2000 DECISION MEMORANDUM NO. 36

MEMORANDUM FOR John H. Thompson  
Associate Director for Decennial Census

From: *Preston Jay Waite*  
Preston Jay Waite  
Acting Chief, Decennial Management Division

Subject: Key Features of the Census 2000 Dress Rehearsal with Aspects of  
a Nonsampling Methodology in the South Carolina Site

This memorandum documents the decision to include key features of a nonsampling census in the Census 2000 Dress Rehearsal in South Carolina.

As part of the Fiscal Year 1998 appropriations compromise agreement between the Administration and the Congress on the issue of sampling in Census 2000, the Census Bureau will use statistical sampling and estimation to arrive at the totals for the Sacramento, California and Menominee American Indian Reservation, Wisconsin Census 2000 Dress Rehearsal sites, but not in the South Carolina site. In the Sacramento and the Menominee American Indian Reservation sites, the Bureau will test statistical sampling and the validity of the entire Census 2000 plan proposed by the Bureau. In the South Carolina site, the Bureau will be looking closely at workforce considerations and its ability to attract and retain a large staff for Census 2000. Additionally, we will include some procedural enhancements in South Carolina, including increased partnership activities, increased quality assurance for data collection operations, and increased marketing and promotion activities. A description of the key features of the nonsampling methodology for South Carolina is provided below:

Nonresponse Follow-up (NRFU)

We will conduct follow-up visits at ALL housing units that do not respond. To allow adequate time for conducting a 100 percent follow-up on nonresponding housing units, we will allocate eight weeks to the operation, which is two weeks more than planned for the sample follow-up. Increasing the hiring peak above the initial plan will allow us to examine our ability to attract and retain a large staff. Census enumerators will visit nonresponse households until at least a partial interview can be obtained.

Undeliverable-As-Addressed (UAA) Follow-up

In the mailout/mailback portion of the South Carolina site, the United States Postal Service will identify addresses that are "undeliverable-as-addressed." We will conduct follow-up visits at ALL postal return housing units during, and as part of, the NRFU operation. During follow-up of UAA units, staff will visit these addresses to determine their true status. If occupied or vacant,

they will be enumerated. If the addresses are confirmed to be deletes, such as nonexistent housing units, commercial units, or duplicates, they will be deleted from the address list.

#### Coverage Edit Follow-up

We will conduct a 100 percent telephone follow-up of all mail returns with household size discrepancies. There will not be a personal visit component to this operation.

#### Field Operations Quality Assurance

To improve quality, we will increase the number of field supervisory staff to expand the number of spot checks of enumerators' work during the Update/Leave and NRFU operations.

#### Partnerships

Adding an additional partnership specialist will allow for a more intensive effort to improve coverage and response in populations that may otherwise not respond by working with local governments, identifying and establishing relationships with community groups, and increasing local and media outreach.

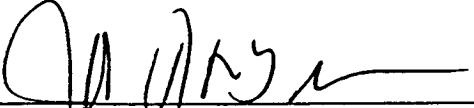
#### Advertising/Media Coverage

To improve response, we will expand the scope of the paid-advertising services. We will intensify the media efforts and expand the use of targeted, nontraditional paid advertising during the NRFU operation.

#### Be Counted

The Be Counted operation will be extended to continue until the beginning of the NRFU operation in the field.

**I concur with the nonsampling methodology planned for the Census 2000 Dress Rehearsal in South Carolina .**

  
\_\_\_\_\_  
John H. Thompson  
Associate Director for Decennial Census

JAN 16 1998

\_\_\_\_\_  
Date

cc: Distribution List